

Dimond Structural™

DHS PURLIN & CEE PURLIN MANUAL

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Dimond Structural, a division of Fletcher Building Ltd.

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Disclaimer: It remains the responsibility of the designer to ensure that the appropriate version of any standards referenced in this document are adopted, based on the desired compliance pathway. Where a new (in draft or published) version of a standard is yet to be cited in a Verification Method, *Dimond Structural* recommends the more onerous design requirements of any conflicting clauses are adopted by a designer.

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SCOPE OF USE

1.0

Dimond Structural Purlin Systems are intended for use as structural support to roofing and wall cladding. The systems provide for bolted connections to primary structural framework and include Dimond Structural Purlins, Fastbrace, Bolted Brace Channels and Top Notch Purlins. The systems are subject to limitations on the environment in which they are used, depending on the type of coating specified.

The information for Dimond Structural Purlin Systems herein is intended for use by suitably qualified structural engineers for their design and PS1 certification.

It is critical to product performance that the loads applied, member spans, member sizes and bracing points are designed within the appropriate Limit State Loads and limitations published in this manual.

Consideration of construction loads relevant to each project are to be accounted for in design to ensure construction can proceed in a safe manner, and contractors are aware of any constraints.

Before commencing a project using a Dimond Structural Purlin System, the designer must ensure relevant information is available to the end user. Failure to observe this information may result in a significant reduction in product performance. Dimond Structural accepts no liability whatsoever for products which are used otherwise than in accordance with these recommendations.

The information contained within this manual is only applicable to Dimond Structural Purlin and Bracing Systems – it cannot be assumed to apply to similar products from other manufacturers.

USE OUTSIDE THE STATED GUIDELINES

If the need arises to use a Dimond Structural Purlin System outside the limitations and procedures given in this manual or if there exists any doubt on product handling or use, written approval should be obtained from Dimond Structural for the specific project, before the project is commenced.

DURABILITY 1.1

SCOPE 1.1.1

The Dimond Structural Purlin Systems described in this manual are subject to limitations on the environment in which they are used, depending on the type of coating specified in this section.

COATING MATERIAL SPECIFICATIONS 1.1.2

Dimond Structural Purlin Systems are manufactured from galvanised coil in the following protective galvanised zinc coating weights.

Standard Grade Z275, i.e. 275g/m^2 total galvanised zinc coating weight.

Grade Z450, i.e. 450g/m^2 total galvanised zinc coating weight. Grade Z450 requires a three-month lead time from date of order to supply for all sizes of purlins and quantities.

Dimond Structural Bracing Systems are manufactured from Grade Z450 material.

ENVIRONMENTS 1.1.3

GENERAL 1.1.3.1

The durability of galvanised zinc coated products is dependent on:

- The environment it will be installed in.
- The grade or weight of the galvanised zinc coating used.
- The degree and extent of the maintenance that will be undertaken over the life of the product.

Performance of galvanised zinc coated products is affected by:

- The cumulative effects of the weather.
- The amount of dust (which can hold moisture) that settles on the product.
- Any other wind-blown deposits that may settle on the product, promoting corrosion.
- Proximity to the ground in subfloor areas with little or no ventilation.

Condensation or other deposits should be prevented from accumulating on Dimond Structural Purlin Systems by providing adequate ventilation and carrying out regular maintenance. A protective barrier must be provided if dampness is possible on the purlin system. Refer Durability Statement 1.1.5 and Maintenance 1.1.6.

LIMITATIONS ON USE 1.1.3.2

The use of galvanised steel purlin systems should be avoided:

- In areas where high concentrations of chemicals are combined with a high humidity, where the system remains wet for long periods of time, causing rapid consumption of the galvanised zinc coating and eventual red rusting of the base metal for example, swimming pool roofs.
- Where the galvanised surface is being exposed to continuous moisture, without a chance for the surface to dry out for example, water tank roofs.
- In or near marine environments, where the prevailing wind carries marine salts which deposit on the purlin system, causing rapid consumption of the galvanised zinc coating and eventual red rusting of the base metal.
- In areas surrounding chemical or industrial storage buildings where any chemical attack may lessen the life of the structure or wind-driven chemical fumes may attack the galvanised coating.
- When in contact with or laid directly on ground.
- When in contact with timber and especially treated timber such as CCA (copper chrome arsenic) without the use of an isolating material such as DPC between the timber and purlin system.

- When used as supporting members to which fall arrest anchor points are attached.
- Where used as ceiling support members, vertical studs or horizontal wall girts where plaster board is fixed directly to the purlin and a level 4 finish or above is required (fixing to a secondary adjustable grid framing system connected to the purlins prior to lining with plasterboard will ensure tighter alignment and fixing tolerance, to achieve the required finish).
- When used in sub-floor areas with less than 450mm ground clearance.
- When used in sub-floor areas where ventilation does not comply with NZS 3604 Clause 6.14.
- Where embedded in concrete or where used within 50mm of the concrete ground slab.

NZBC COMPLIANCE 1.1.4

Past history of use of Dimond Structural Purlin Systems indicate that provided the system design, product use and maintenance is in line with the guidelines of this manual, Dimond Structural Purlin Systems can reasonably be expected to meet the performance criteria in clause B1 Structure and B2 Durability of the New Zealand Building Code for a period of not less than 50 years, provided the steel components remain dry and free from contamination.

DURABILITY STATEMENT 1.1.5

The use of Dimond Structural Purlin Systems is limited to dry and non corrosive environments unless further protection of the surfaces is provided.

It is the responsibility of the design engineer to assess the durability requirements and specify accordingly.

Dimond Structural Purlin Systems can be used in the temperature range of +60°C to -30°C.

As a guide and subject to designers specification and approval,

- Standard Z275 zinc coating weight is used on buildings where components are kept dry in service and protected from exposure to moisture and corrosive environments.
- Z450 zinc coating weight could be considered for mild external environments, such as the underside of canopies (Note: Fastbrace, Bolted Brace Channel and bracing end cleats are supplied in Z450 zinc coating).
- Where the surface of the purlin system may be exposed to contaminants and/or moisture that will not regularly dry out, the use of Dimond Structural Purlin Systems is only recommended if suitable protection of the galvanised steel surface can be achieved with a proprietary coating system applied in-situ. Coating specifications and statements on suitability of use can be obtained from PPG Coatings or Akzo Nobel Coatings.

MAINTENANCE 1.1.6

Dimond Structural Purlin Systems require a minimum degree of maintenance to ensure expected performance is achieved. Careful maintenance can extend the useful life of the Dimond Structural Purlin System.

As a guide the following should be carried out as often as is needed (this could be as often as every three months).

a) Keep surfaces clean and free from continuous contact with moisture, dust and other debris. This includes areas such as the exposed underside of canopy structures. Where necessary, regular maintenance should include a wash-down programme to remove all the accumulated dirt or salt buildup on all the galvanised surfaces with a soft brush and plenty of clean water or by water blasting at 15 MPa (2000 psi).

b) Periodically inspect the Purlin, Girt, Fastbrace, Bolted Brace Channel, Sag Rod members and connections. At the first sign of any surface corrosion, the affected areas should be cleaned down, spot primed with a zinc rich primer and then repainted to an appropriate paint manufacturer's recommendations.

c) Periodically inspect and, where necessary, tighten any loose bolts or fasteners and replace any that have deteriorated to the extent that red rust has become obvious over most of their surface.

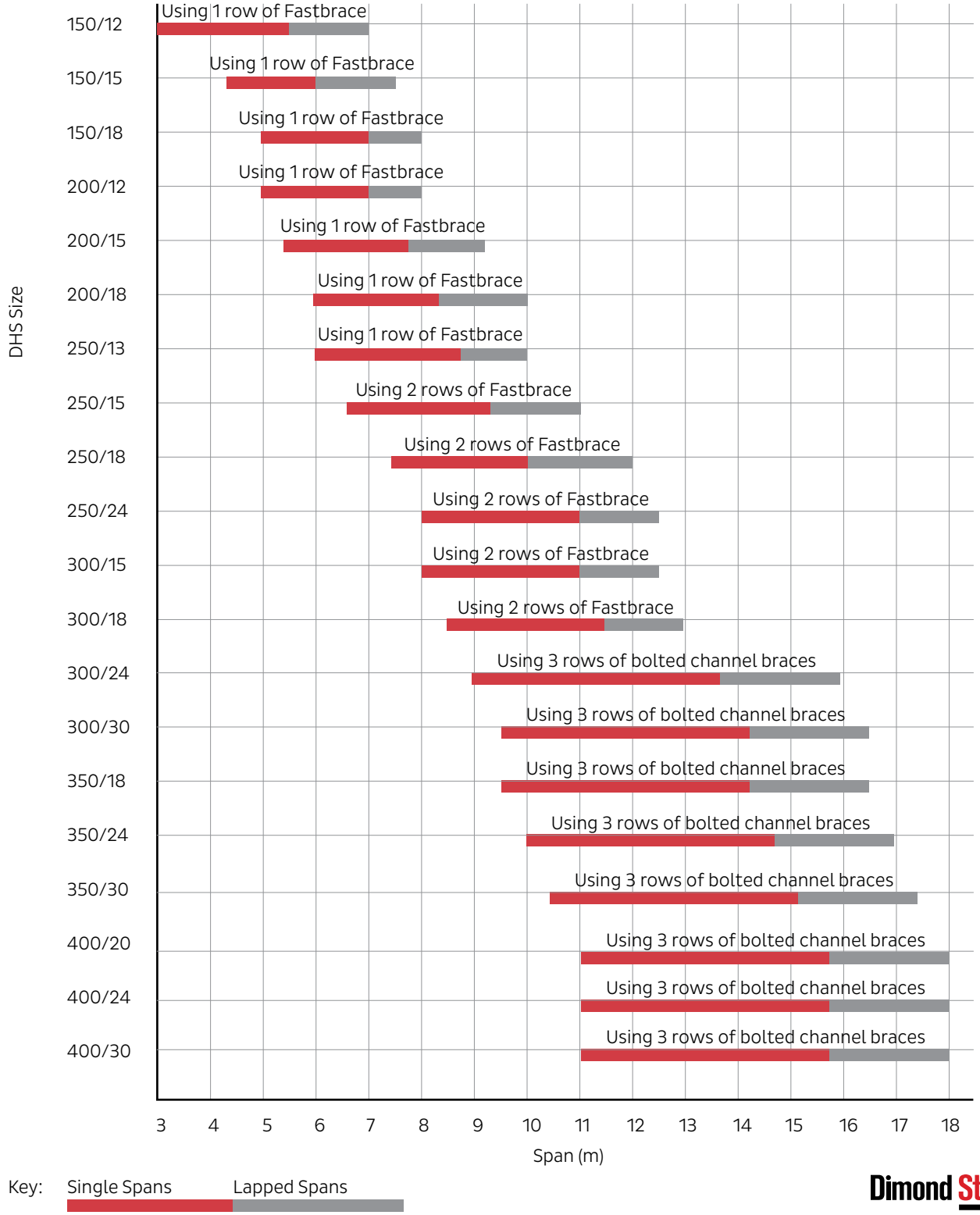
Any case of severe damage or corrosion must be reported to the design engineer.

OPTIMISATION

The charts and tables in this section are based on typical product use and are intended as a quick reference guide only. **These must not be used for design purposes or as a substitute for specific design in sections 2.3 and 2.4** as there may be specific cases in this section where the spans indicated on these charts and tables will not be achievable.

DHS PURLIN SYSTEM QUICK REFERENCE GUIDE 1.2.1

1. This guide is intended to be used as an indicator of the purlin and bracing options suitable for particular spans.
2. Final purlin and bracing design must be based on detailed design specific to each building.



Key: Single Spans Lapped Spans

SPECIFIC DESIGN – DIMOND PURLIN SYSTEM 1.3

DESIGN BASIS 1.3.1

Dimond Structural Dimond Purlin Systems have been designed to comply with AS/NZS 4600:2018, based on analysis carried out by the University of Sydney, who are recognised for their expertise in the area of cold form design. The structural analysis consisted of several modules including cross-sectional analysis, an AS/NZS 4600:2018 design module, in-plane structural analysis, and finite element laterial buckling analysis.

Methods in AS/NZS 4600:2018 for determining pure shear, combined bending/shear, lateral buckling and distortional buckling have, in some cases, resulted in lower purlin capacities than previously published. These are included in the design tables in this manual.

Appropriate design load combinations for each Limit State should be determined in accordance with AS/NZS 1170. It is recommended these be expressed as uniformly distributed bending loads (kN/m) assumed to be acting in-plane applied about the major axis of symmetry (X-X) and uniform axial compression loads (kN) applied about the rotational axis (Z-Z) for direct comparison with the tabulated data in this manual.

Self weight of the Dimond Purlin Systems is not included in any load tables and must be calculated as part of the total dead load of the building elements supported by the purlin.

DIMOND PURLIN SYSTEM DESIGN CONSIDERATIONS 1.3.2

Data presented in this manual is intended for use by structural engineers. Load situations other than uniformly distributed and axial loads will require specific design.

Design capacity of the DHS Purlin System is largely dependent on the amount of restraint provided to the purlin section. Data presented in DHS Purlin System Load Span assumes that bracing prevents both lateral movement and rotation of the section at that point.

Design Capacities in the Limit State format have been derived by the application of a capacity factor, ϕ:

Bending $\phi_b = 0.90$

Compression $\phi_c = 0.85$

A design yield strength of 500 MPa has been used for DHS purlins and girts. This is in line with the minimum specified yield for G500 material and is less than the consistent minimum yield stress in the G450 material used in manufacture.

Tables in this manual are intended for use where roofing or cladding is attached to one DHS purlin or girt flange, where it is assumed that the screw-fastened cladding significantly prevents lateral movement of the flange to which it is attached. Where this assumption does not hold, it is recommended that the number of braces required is specified such that the purlin load capacity, $\phi_b W_{bx}$ is not less than the capacity for the Fully Restrained (FR) case.

Gravity type loads can be assumed to act perpendicular to the roof plane for roof pitches up to 10 degrees provided the DHS purlins are placed with their flanges facing up the slope. For roof pitches greater than 10 degrees, load components about the minor axis of symmetry (Y-Y) should also be considered.

Span Guide

As a guide, single spans are used most frequently, particularly where purlins/girts are set down between the rafters/columns. Deflections may govern on larger spans.

End and internal continuous configurations may be used where lower deflections are required.

Lapped end and lapped internal configurations are more economical on large purlin spans where better strength and lower deflections are required.

Deflection Guidelines

As a guide to acceptable deflection limits for serviceability of the DHS Purlin System used as purlins or girts, the following limits are recommended for wind load and dead load actions,

- **Where there is no ceiling:**
  - Deflection for W_S = Span/150
  - Deflection for G = Span/300
- **Where there is a ceiling:**
  - Deflection for W_S = Span/200
  - Deflection for G = Span/360.

For further guidance on deflection limits, refer to AS/NZS 1170.

Bracing Guidelines

For roofs, the out of plane component of the dead load of the roofing and purlins is assumed to be carried in tension by Fastbrace or Bolted Brace Channels tied across the ridge or into the ridge beam for monoslope roofs. In order to minimise lateral deflections to purlin members, **we recommend a maximum spacing between bracing lines and/or support framing of 3.5 metres.**

For walls, the following table gives the maximum allowable wall heights for Dimond Structural bracing systems, where the dead load of cladding and girts is assumed to be carried in tension to an eaves beam by Fastbrace or Bolted Brace Channels. In order to minimise deflections in the girt member, **we recommend a maximum spacing between bracing lines and/or support framing of 3.5 metres.**

Specific design of the bracing system and connections is required for wall heights greater than the limits shown or where the bracing is designed to carry compression loads.

Purlin Thickness BMT (mm)	Maximum Wall Height	
	Fastbrace	Bolted Channel Bracing
1.15, 1.25	5.0m	15.0m
1.45	6.5m	15.0m
1.75	8.0m	15.0m
1.95, 2.4, 3.0	-	15.0m

Basis to table: 1) Maximum spacing of bracing lines/portal frames 3.5m and 2) Maximum cladding weight 6.7kg/m^2.

Specific Design

Specific design to AS/NZS 4600 is required where DHS purlins -

- have suspended loads present (such as ducting and piping). Suspended loads are connected to the DHS purlin web or, if this is not possible, to the DHS purlin bottom flange within 25mm of the web. Under no circumstances should loads be hung off the purlin lips.
- are used as cantilever members.
- are used as truss or portal members.
- have holes larger than standard bolt holes present.
- are subject to out of plane loading about the minor Y-Y axis.

Distortional Buckling Stresses and Design Capacities in Compression, Bending and Shear

The following table lists design capacities and distortional buckling stresses that were used in determining the load span tables.

DHS size	Compression	Bending			Shear	
	$\phi_c N_s$ (kN)	$\phi_b M_{sx}$ (kNm)	f_{odx} (MPa)	$\phi_b M_{bdx}$ (kNm)	k_v	$\phi_v V_{vy}$ (kN)
DHS150/12	125.2	6.95	417	5.76	11.70	21.05
DHS150/15	175.8	9.59	530	7.84	10.54	38.18
DHS150/18	202.8	10.58	645	9.33	9.68	52.06
DHS200/12	140.0	9.87	324	8.55	12.24	16.16
DHS200/15	197.7	14.17	412	11.72	11.07	29.38
DHS200/18	236.5	17.27	501	14.08	10.14	47.47
DHS250/13	164.3	14.91	293	13.28	13.39	17.94
DHS250/15	208.2	18.85	341	16.29	12.39	25.95
DHS250/18	255.5	23.53	415	19.69	11.18	41.27
DHS250/24	400.1	36.40	581	29.88	9.73	93.14
DHS300/15	202.2	23.38	273	21.28	13.06	22.59
DHS300/18	254.6	29.62	332	25.86	11.81	35.99
DHS300/24	411.2	49.44	463	39.57	10.19	80.46
DHS300/30	557.7	64.06	589	53.03	9.36	144.93
DHS350/18	257.6	34.90	303	31.24	11.59	30.07
DHS350/24	423.0	58.57	423	48.00	10.17	68.32
DHS350/30	583.7	81.47	538	64.53	9.47	124.65
DHS400/20	304.0	48.39	302	42.27	10.65	33.32
DHS400/24	417.7	67.23	376	56.14	9.66	56.50
DHS400/30	586.8	97.44	478	75.77	8.76	100.34

- $\phi_c N_s$: Design section capacity in pure compression, determined in accordance with AS/NZS 4600:2018 Clause 3.4.1 with $\phi_c = 0.85$.
- $\phi_b M_{sx}$: Design section capacity in pure bending about the major (X-X) axis, determined in accordance with AS/NZS 4600:2018 Clause 3.3.2 with $\phi_b = 0.95$ and the web modelled as a single stiffened flat element.
- $\phi_b M_{bdx}$: Design member capacity in pure bending about the major (X-X) axis based on failure by distortional buckling, determined in accordance with AS/NZS 4600:2018 Clause 3.3.3.3 with $\phi_b = 0.90$. The corresponding distortional buckling stress ($f_{odx}(TW)$) is determined using a rational elastic buckling analysis of the whole cross-section.
- k_V: Shear buckling coefficient for the web, determined in accordance with AS/NZS 4600:2018 Clause 3.3.4 where a stiffening swage is present in the web.
- $\phi_v V_{vy}$: Design shear capacity for a shear force in the direction of the Y-Y axis, determined in accordance with AS/NZS 4600:2018 Clause 3.3.5 with $\phi_v = 0.90$.

Combined Bending and Compression Design

When purlins are designed to act under combined bending and axial loads, for example purlins transmitting end wall loads to braced bays, interaction of combined bending and axial loads may be shown in the following equations:

1. If $N^*/\phi_c N_c \le 0.15$, the following interaction equation may be used:

$$\frac{N^*}{\phi_c N_c} + \frac{W_x^*}{\phi_b W_{bx}} \le 1.0$$

This is usually the case when purlins are used primarily as bending members near capacity and are also required to take a nominal level of axial compression.

If $N^*/\phi_c N_c > 0.15$ then the following equations must be used:

2. $$\frac{N^*}{\phi_c N_c} + \frac{C_{mx} W_x^*}{\phi_b W_{bx} \alpha_{nx}} \leq 1.0$$

3. $$\frac{N^*}{\phi_c N_s} + \frac{W_x^*}{\phi_b W_{bx}} \leq 1.0$$

where

N^* = Design axial compressive load (kN).

$\phi_c N_c$ = Axial compression member capacity (kN) in the absence of other actions.

$\phi_c N_s$ = Axial compression section capacity (kN).

W_x^* = Design bending load (kN/m) about the X-X axis.

$\phi_b W_{bx}$ = Uniformly loaded bending capacity (kN/m) about the X-X axis.

C_{mx} = Restraint coefficient about the X-X axis.

It is reasonable to assume C_{mx} is 1.0 for unrestrained supports (i.e. simply supported) and 0.85 for restrained supports (end or internal spans).

α_{nx} = $1 - [N^*/N_{ex}]$.

N_{ex} = Elastic buckling capacity (kN) about the major axis of symmetry (X-X).

Flexure about the minor axis of symmetry (Y-Y) is assumed to be zero. If biaxial flexure is expected, specific design to AS/NZS 4600 is required.

Solution of the interaction equation involves solving for the design axial compressive load (N*), yielding the remaining axial capacity or directly substituting the known variables. These methods are illustrated in DHS Purlin System Design Examples 2.3.5.

Where DHS purlins are designed to take solely axial load, the design of the bolted connections must be considered. For example a DHS purlin designed as a load-bearing post will likely be limited by the capacity of bolts used at supports.

Bracing System Design

Fastbrace and Bolted Brace Channels are used with the DHS Purlin System and run in continuous lines between all purlins/girts. Fastbrace is the preferred bracing type for use with the DHS Purlin System and is suitable for use with DHS 150/12 up to DHS 300/30 (Bolted Brace Channels must be used with DHS 350/18 and DHS 400/30). Bolted Brace Channels are suitable for use on all DHS Purlin sizes.

Individual bracing units are available in lengths greater than 250mm.

To minimise lateral movement of the DHS Purlin System and for the bracing system to be effective with the Load Capacities in Section 2.3.4 it is assumed -

- Bracing lines are continuous from ridge to eaves.
- Bracing lines are located as set out for the span type and number of bracing lines considered. Refer CAD Details on-line (**www.dimondstructural.co.nz/products/dhs-purlins**).
- Bracing lines are not more than 3.5m apart and each length of brace channel does not exceed 3.20m
- **No other structure is connected to or hung from the bracing system. DHS Bracing Systems are not suitable for hanging suspended loads.**
- Brace channels and alternating sag rods are not used. This significantly lowers the rotational restraint of the bracing system on the DHS Purlin System.

Bracing System Design Method

Specific design of the bracing system is required where bracing is used to support additional loads (other than providing rotational and lateral restraint to the purlins), for example sprinkler pipes or ducting.

The bending moment on each brace channel is determined by:

$M^* = 0.75\ \phi_b W_{bx} l_b m$ if roofing or cladding attachment provides sufficient restraint to the outside flange

or $M^* = 1.5\ \phi_b W_{bx} l_b m$ if there is no additional restraint to the outside flange.

Where $\phi_b W_{bx}$ = Uniformly loaded bending capacities from DHS load span tables

$l_b = l \times h$ where l = purlin span, h = contributing length factor from below

m = distance from shear centre to mid plane of DHS purlin web from below.

Contributing Length Factor (h)

Span Type	No. of Brace Lines		
	1	2	3
h	0.50	0.35	0.25

Dimension (m)

DHS Member	DHS 150/12	DHS 150/15	DHS 150/18	DHS 200/12	DHS 200/15	DHS 200/18	DHS 250/13	DHS 250/15	DHS 250/18	DHS 250/24	DHS 300/15	DHS 300/18	DHS 300/24	DHS 300/30	DHS 350/18	DHS 350/24	DHS 350/30	DHS 400/20	DHS 400/24	DHS 400/30
m (mm)	31.9	31.4	30.9	35.1	34.6	34.1	37.1	36.7	36.3	35.2	41.3	40.8	39.8	38.8	39.9	38.9	38	38.3	37.7	36.7

M^* must not exceed the brace member capacity M_b given below.

Bracing Member Moment Capacity (M_b)

Maximum Brace Length (m)	≤ 3.2	3.4	3.6	3.8	4.0
M_b (kNm)	0.50	0.48	0.45	0.41	0.38

Notes:
1. For brace lengths less than 3.2m, the brace capacity is limited by cleat connection rather than the brace channel.
2. The moment capacities given above do not apply where additional loads are connected eccentrically to the web of the brace channel. We do not recommend connecting additional loads to the flanges or lips of the brace channel.

Connection Design

The following table sets out the bolt shear capacities for Grade 4.6 and Grade 8.8 bolts and the connection capacity for different steel thicknesses of the Purlin System when checked for end tearing and bearing. These can be compared with connection design loads determined by the design engineer. Refer Example: Bolt Sizing in Section 2.3.5.

Details of single bolt connection capacities for DHS Purlins and Girts

Bolt Diameter (mm)	Failure Mode	Steel capacity (kN) for varying steel thicknesses (mm)							Bolt shear ϕV_{fn} (kN)	
		1.15	1.25	1.45	1.75	1.95	2.40	3.00	Grade 4.6	Grade 8.8
12	Tearing ϕV_f	13.6	14.8	18.5	22.3	24.9	30.6	38.3	15.1	31.4
	Bearing ϕV_b	12.7	14.0	15.0	18.1	20.2	24.9	31.1	15.1	31.4
16	Tearing ϕV_f	13.6	14.8	18.5	22.3	24.9	30.6	38.3	28.6	59.3
	Bearing ϕV_b	15.0	18.7	20.0	24.2	26.9	33.2	41.5	28.6	59.3
20	Tearing ϕV_f	13.6	14.8	18.5	22.3	24.9	30.6	38.3	44.6	92.6
	Bearing ϕV_b	16.2	23.4	25.1	30.2	33.7	41.5	51.8	44.6	92.6

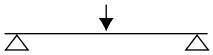
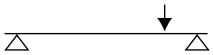
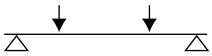
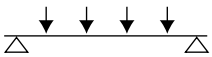
Notes:
1. All capacities are in accordance with AS/NZS 4600:2018 (Grade 4.6 bolts - 400MPa minimum tensile strength and Grade 8.8 bolts - 830MPa minimum tensile strength).
2. Bolts are assumed to comply to AS1111 (Grade 4.6) or AS1252 (Grade 8.8) and be produced to a quality assurance programme.
3. All connections are assumed to have one washer under each of the bolt head and the nut (or the portal cleat acting as one of the washers).
4. Calculation of tearing capacity assumes a 38mm edge distance.
5. The maximum structural ductility factor used for seismic loads must be less than 1.25.

Point Load Conversion Guide

The following formula may be used as a guide in converting point loads to equivalent uniformly distributed bending loads specific to the DHS Purlin System.

Formula $W = F \times \frac{P}{L}$

Where W = Uniform bending load
F = Factor "F" from table below
P = Point load ↓
L = Length of span

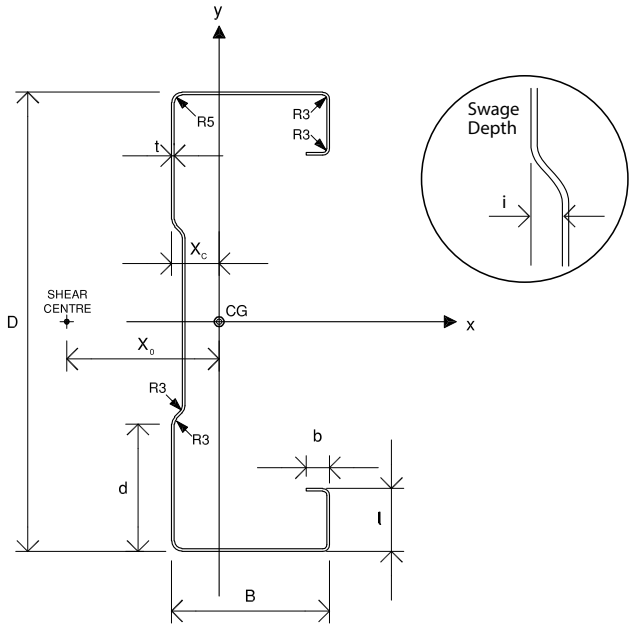
Type	Symbol	Factor "F"			
		Simple	End or Internal	Lapped End	Lapped Internal
One equidistant point load		2	1.75	1.75	1.5
One eccentric point load		1.5	1.5	1.5	1
Two equidistant point loads		2.67	2.5	2.5	1.75
Three equidistant point loads		4	3	3	2.5
Four equidistant point loads		4.8	4	4	3
Five equidistant point loads		6	5	5	4

Notes:
1. This conversion guide and factors (F) is only applicable to the DHS Purlin System.
2. The conversion factors (F) are an approximation to the pure derivation and are to be used as a guide only.
3. The conversion formula assumes all point loads are equal in magnitude.

DHS PURLIN SYSTEM SECTION PROPERTIES

DHS Section	Depth D (mm)	Depth B (mm)	Thickness t (mm)	Mass (kg/m)	Weight (kN/m)	d (mm)	Swage Depth i (mm)	b (mm)	l (mm)	X_c (mm)	X_o (mm)
DHS150/12	150	65	1.15	2.96	0.03	54	4	10	23	22.9	55.4
DHS150/15	150	65	1.45	3.71	0.04	54	4	10	23	22.7	54.8
DHS150/18	150	65	1.75	4.44	0.04	54	4	10	23	22.5	54.3
DHS200/12	200	75	1.15	3.68	0.04	62	4	10	28	25.2	60.9
DHS200/15	200	75	1.45	4.62	0.05	62	4	10	28	25.0	60.3
DHS200/18	200	75	1.75	5.54	0.05	62	4	10	28	24.8	59.8
DHS250/13	250	85	1.25	4.83	0.05	67	6	12	33	28.3	66.0
DHS250/15	250	85	1.45	5.59	0.05	67	6	12	33	28.2	65.6
DHS250/18	250	85	1.75	6.72	0.07	67	6	12	33	28.0	65.1
DHS250/24	250	85	2.40	9.12	0.09	67	6	12	33	27.5	63.9
DHS300/15	300	100	1.45	6.62	0.06	67	7	12	38	32.9	74.9
DHS300/18	300	100	1.75	7.97	0.08	67	7	12	38	32.7	74.4
DHS300/24	300	100	2.40	10.83	0.11	67	7	12	38	32.2	73.2
DHS300/30	300	100	3.00	13.44	0.13	67	7	12	38	31.8	72.1
DHS350/18	350	100	1.75	8.79	0.09	77	7	12	43	31.5	72.3
DHS350/24	350	100	2.40	11.96	0.12	77	7	12	43	31.1	71.1
DHS350/30	350	100	3.00	14.85	0.15	77	7	12	43	30.6	70.1
DHS400/20	400	100	1.95	10.69	0.10	79	7	12	48	30.5	69.8
DHS400/24	400	100	2.40	13.09	0.13	79	7	12	48	30.2	69.1
DHS400/30	400	100	3.00	16.27	0.16	79	7	12	48	29.9	68.1

Note: Mass assumes a total coated weight for the standard zinc coating of 275g/m^2.



DHS PURLIN SYSTEM SECTION PROPERTIES

DHS Section	Full (Gross) Section Properties											Effective Section Properties						
	A_g (mm^2)	I_x ($10^6 mm^4$)	I_y ($10^6 mm^4$)	Z_x ($10^3 mm^3$)	$Z_y^{(+ve)}$ ($10^3 mm^3$)	$Z_y^{(-ve)}$ ($10^3 mm^3$)	r_x (mm)	r_y (mm)	β_y (mm)	J (mm^4)	I_w ($10^9 mm^6$)	$A_{e(fy)}$ (mm^2)	I_{ex} ($10^6 mm^4$)	$I_{ey}^{(+ve)}$ ($10^6 mm^4$)	$I_{ey}^{(-ve)}$ ($10^6 mm^4$)	Z_{ex} ($10^3 mm^3$)	$Z_{ey}^{(+ve)}$ ($10^3 mm^3$)	$Z_{ey}^{(-ve)}$ ($10^3 mm^3$)
DHS150/12	377	1.32	0.24	17.5	5.7	10.0	59.1	25.0	165	166	1.39	294.50	1.18	0.24	0.16	14.63	5.68	4.87
DHS150/15	472	1.64	0.29	21.9	7.0	12.4	59.0	24.8	164	331	1.69	413.60	1.56	0.29	0.22	20.19	7.00	6.36
DHS150/18	566	1.96	0.34	26.1	8.3	14.8	58.8	24.7	164	578	1.97	530.20	1.90	0.34	0.28	24.74	8.26	7.77
DHS200/12	469	2.87	0.39	28.7	7.9	15.1	78.2	28.8	206	207	3.92	329.30	2.37	0.39	0.24	20.79	7.91	6.16
DHS200/15	588	3.59	0.48	35.9	9.8	18.7	78.1	28.6	206	412	4.80	465.20	3.21	0.48	0.32	29.83	9.78	8.54
DHS200/18	706	4.29	0.57	42.9	11.6	22.2	78.0	28.4	205	721	5.64	618.30	4.13	0.57	0.42	40.41	11.57	10.56
DHS250/13	616	5.80	0.64	46.4	11.5	22.2	97.0	32.3	245	321	10.21	386.50	4.59	0.64	0.39	31.39	11.46	8.50
DHS250/15	712	6.70	0.74	53.6	13.1	25.5	97.0	32.2	245	499	11.67	489.90	5.60	0.74	0.46	39.69	13.14	10.47
DHS250/18	856	8.02	0.88	64.2	15.6	30.4	96.8	32.0	245	874	13.78	668.10	7.31	0.88	0.60	55.05	15.60	13.99
DHS250/24	1162	10.82	1.16	86.6	20.6	40.5	96.5	31.6	244	2231	17.99	1046.00	10.71	1.16	0.90	85.15	20.62	19.42
DHS300/15	844	11.46	1.19	76.4	17.9	35.4	116.5	37.6	291	591	26.81	475.80	8.80	1.19	0.72	49.21	17.94	13.44
DHS300/18	1015	13.75	1.42	91.7	21.3	42.2	116.4	37.4	291	1036	31.75	665.60	11.64	1.42	0.92	69.29	21.34	17.96
DHS300/24	1380	18.60	1.89	124.0	28.3	56.5	116.1	37.0	291	2650	41.77	1075.00	17.77	1.89	1.38	115.65	28.34	26.23
DHS300/30	1712	22.95	2.30	153.0	34.4	68.9	115.8	36.6	290	5136	50.22	1458.00	22.66	2.30	1.86	149.86	34.41	32.98
DHS350/18	1120	20.08	1.56	114.7	23.1	48.3	133.9	37.4	333	1143	47.50	673.50	16.42	1.56	0.96	81.63	23.11	18.33
DHS350/24	1524	27.19	2.08	155.4	30.8	64.6	133.6	37.0	333	2926	62.69	1106.00	25.23	2.08	1.44	137.00	30.76	28.06
DHS350/30	1892	33.59	2.54	191.9	37.4	78.9	133.2	36.6	333	5676	75.61	1526.00	33.44	2.54	1.94	190.58	37.37	35.30
DHS400/20	1362	31.10	1.87	155.5	27.3	59.5	151.1	37.1	380	1726	74.25	794.70	25.83	1.87	1.15	113.19	27.34	21.83
DHS400/24	1668	37.97	2.26	189.9	33.0	72.0	150.9	36.8	381	3203	89.14	1092.00	34.05	2.26	1.49	157.27	32.99	29.64
DHS400/30	2072	46.95	2.76	234.8	40.1	87.9	150.5	36.5	381	6216	107.80	1534.00	46.08	2.76	2.01	227.93	40.13	37.62

Note: Notation used is consistent with Table 1.4 in AS/NZS 4600, (+ve) = DHS Purlin Lip in compression (-ve) = DHS Purlin Web in compression.

DHS PURLIN SYSTEM LOAD SPAN TABLES

Uniformly loaded bending capacities (kN/m) and axial compression capacities (kN) are given for DHS purlins and girts for spans between 3.0m and 18.0m in the following confirgurations -

0B, 1B, 2B, 3B	Ultimate - 0, 1, 2 or 3 Braces
FR	Ultimate - Fully Restrained (Used when the compression flange is fully restrained against lateral movement)
Ws	Serviceability - Load at which midspan deflection equates to span/150.
$\phi_c N_{ex}$	Elastic buckling capacity about the X-X axis.

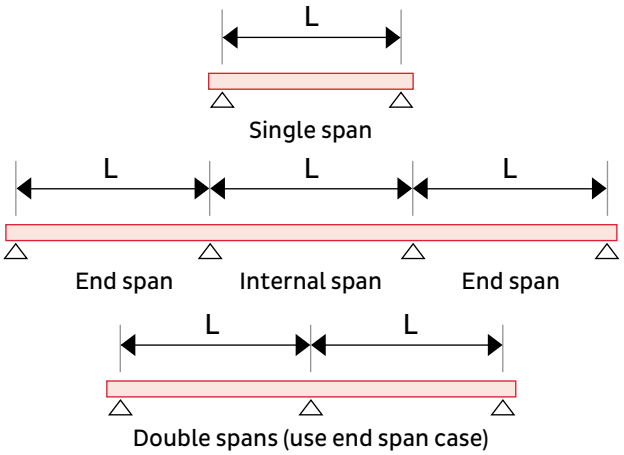
As deflection is proportional to loading, Ws loads may be factored by the deflection ratio for any deflection within the limit of the linear load capacities.

The following notes apply to the load span tables in this section -

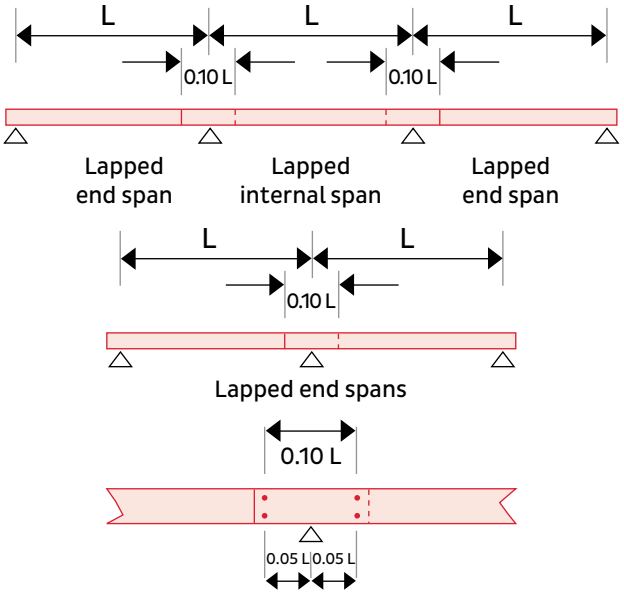
1. No bolt slip or member rotation has been allowed for at fixed ends.
2. End and internal spans can be either Continuous or Lapped span type, however only tables of the corresponding span type may be used in conjunction.
3. Use of end span tables with corresponding internal span tables assumes that the end span is within plus 5% or minus 10% of the internal spans, provided that for a 3 span configuration both end spans are reduced by the same amount. Otherwise specific design to AS/NZS 4600 is required.
4. Linear interpolation is permitted for Loads between intermediate DHS purlin spans.

Typical DHS Purlin System Span Configurations

L = Span length



All lap lengths are to be a minimum of 0.1 of the maximum span, measured from bolt centre to bolt centre at each end of the lap, positioned equally each side of the portal rafter.
Refer CAD Details on-line (**www.dimondstructural.co.nz/products/dhs-purlins**).



Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	DHS150/12			FR	125.20	DHS150/15			FR	175.80	DHS150/18			FR	202.80	DHS200/12			FR	140.00	DHS200/15			FR	197.70	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	46.05	73.23	73.23	73.23	288.70	57.16	100.20	100.20	100.20	360.00	68.06	142.10	142.10	142.10	429.70	67.98	78.72	78.72	78.72	629.40	92.28	109.50	109.50	109.50	786.50	3.0
3.5	34.16	73.23	73.23	73.23	212.10	42.61	100.20	100.20	100.20	264.50	51.01	142.10	142.10	142.10	315.70	53.84	78.72	78.72	78.72	462.40	68.64	109.50	109.50	109.50	577.90	3.5
4.0	26.42	73.23	73.23	73.23	162.40	33.12	100.20	100.20	100.20	202.50	39.90	132.00	142.10	142.10	241.70	42.64	78.72	78.72	78.72	354.00	53.02	109.50	109.50	109.50	442.40	4.0
4.5	21.10	72.04	73.23	73.23	128.30	26.60	95.65	100.20	100.20	160.00	32.26	113.50	142.10	142.10	191.00	33.89	78.72	78.72	78.72	279.70	42.26	109.50	109.50	109.50	349.60	4.5
5.0	17.28	63.24	73.23	73.23	103.90	21.93	80.95	100.20	100.20	129.60	26.78	95.99	142.10	142.10	154.70	27.61	78.72	78.72	78.72	226.60	34.54	109.50	109.50	109.50	283.20	5.0
5.5	14.46	54.13	73.23	73.23	85.90	18.47	67.54	100.20	100.20	107.10	22.73	80.21	142.10	142.10	127.90	22.96	76.42	78.72	78.72	187.30	28.81	105.00	109.50	109.50	234.00	5.5
6.0	12.31	46.05	73.23	73.23	72.18	15.83	57.16	100.20	100.20	90.01	19.64	68.06	130.10	142.10	107.40	19.42	67.98	78.72	78.72	157.40	24.45	92.28	109.50	109.50	196.60	6.0
6.5	10.63	39.43	73.23	73.23	61.50	13.78	49.05	99.11	100.20	76.69	17.23	58.56	117.60	142.10	91.54	16.66	60.29	78.72	78.72	134.10	21.05	79.24	109.50	109.50	167.50	6.5
7.0	9.31	34.16	68.08	73.23	53.03	12.15	42.61	88.93	100.20	66.13	15.32	51.01	105.50	142.10	78.93	14.46	53.84	78.72	78.72	115.60	18.35	68.64	109.50	109.50	144.50	7.0
7.5	8.23	29.90	62.17	73.23	46.20	10.83	37.39	79.21	100.20	57.61	13.77	44.91	93.94	136.40	68.76	12.69	47.99	78.72	78.72	100.70	16.17	60.06	109.50	109.50	125.80	7.5
8.0	7.35	26.42	55.95	73.23	40.60	9.75	33.12	69.99	100.20	50.63	12.51	39.90	83.07	126.60	60.43	11.24	42.64	78.12	78.72	88.51	14.38	53.02	107.50	109.50	110.60	8.0
8.5	6.63	23.52	50.22	73.23	35.96	8.86	29.58	62.30	98.65	44.85	11.46	35.75	74.07	117.00	53.53	10.04	37.88	72.45	78.72	78.40	12.90	47.17	99.30	109.50	97.98	8.5
9.0	6.02	21.10	44.97	69.20	32.08	8.11	26.60	55.83	90.81	40.00	10.59	32.26	66.50	107.70	47.75	9.03	33.89	66.75	78.72	69.93	11.66	42.26	90.28	109.50	87.39	9.0
9.5	5.50	19.04	40.49	64.64	28.79	7.48	24.08	50.35	83.23	35.90	9.84	29.31	60.09	98.70	42.85	8.18	30.51	61.55	78.72	62.77	10.61	38.10	81.37	109.50	78.44	9.5
10.0	5.06	17.28	36.66	60.07	25.98	6.94	21.93	45.67	75.83	32.40	9.21	26.78	54.60	89.91	38.68	7.45	27.61	56.94	78.72	56.65	9.71	34.54	73.68	109.50	70.79	10.0
10.5	4.68	15.77	33.36	55.24	23.57	6.47	20.07	41.63	69.04	29.39	8.66	24.61	49.87	81.96	35.08	6.82	25.12	52.84	77.46	51.38	8.94	31.47	67.03	106.60	64.21	10.5
11.0	4.35	14.46	30.50	50.85	21.47	6.07	18.47	38.12	63.14	26.78	8.19	22.73	45.76	75.05	31.96	6.28	22.96	48.88	73.12	46.81	8.27	28.81	61.26	100.30	58.50	11.0
11.5	4.06	13.31	28.00	46.72	19.65	5.72	17.06	35.06	57.98	24.50	7.77	21.08	42.18	69.01	29.24	5.81	21.07	45.13	68.73	42.83	7.68	26.49	56.22	93.51	53.53	11.5
12.0	3.81	12.31	25.80	43.01	18.04	5.41	15.83	32.37	53.45	22.50	7.41	19.64	39.02	63.71	26.86	5.39	19.42	41.63	64.51	39.34	7.17	24.45	51.78	86.44	49.16	12.0
12.5	3.59	11.42	23.87	39.74	16.63	5.13	14.74	29.99	49.44	20.74	7.09	18.36	36.24	59.01	24.75	5.02	17.95	38.44	60.66	36.25	6.71	22.65	47.87	79.87	45.30	12.5
13.0	3.39	10.63	22.14	36.83	15.38	4.89	13.78	27.89	45.88	19.17	6.81	17.23	33.77	54.85	22.88	4.70	16.66	35.61	57.16	33.52	6.31	21.05	44.38	74.02	41.89	13.0
13.5	3.21	9.93	20.61	34.24	14.26	4.68	12.92	26.01	42.71	17.78	6.56	16.22	31.57	51.13	21.22	4.40	15.50	33.09	53.95	31.08	5.95	19.63	41.28	68.81	38.84	13.5
14.0	3.06	9.31	19.24	31.92	13.26	4.48	12.15	24.32	39.86	16.53	6.33	15.32	29.59	47.80	19.73	4.14	14.46	30.83	50.99	28.90	5.63	18.35	38.50	64.13	36.12	14.0
14.5	2.92	8.74	18.00	29.83	12.36	4.31	11.45	22.81	37.31	15.41	6.13	14.51	27.82	44.81	18.39	3.91	13.53	28.80	47.88	26.94	5.35	17.20	36.00	59.92	33.67	14.5
15.0	2.79	8.23	16.89	27.95	11.55	4.15	10.83	21.45	35.00	14.40	5.94	13.77	26.22	42.11	17.19	3.70	12.69	26.97	45.06	25.18	5.09	16.17	33.74	56.12	31.46	15.0
15.5	2.67	7.77	15.88	26.25	10.82	4.01	10.27	20.21	32.91	13.49	5.78	13.11	24.77	39.66	16.10	3.51	11.93	25.31	42.36	23.58	4.85	15.23	31.70	52.67	29.46	15.5
16.0	2.57	7.35	14.97	24.70	10.15	3.88	9.75	19.09	31.01	12.66	5.63	12.51	23.46	37.43	15.11	3.34	11.24	23.80	39.81	22.13	4.64	14.38	29.84	49.55	27.65	16.0
16.5	2.47	6.97	14.13	23.29	9.54	3.77	9.29	18.07	29.29	11.90	5.49	11.96	22.26	35.41	14.21	3.18	10.61	22.42	37.49	20.81	4.44	13.61	28.15	46.70	26.00	16.5
17.0	2.39	6.63	13.37	22.00	8.99	3.66	8.86	17.13	27.71	11.21	5.36	11.46	21.16	33.56	13.38	3.04	10.04	21.17	35.37	19.60	4.27	12.90	26.61	44.09	24.49	17.0
17.5	2.31	6.31	12.67	20.82	8.49	3.56	8.47	16.28	26.26	10.58	5.25	11.01	20.16	31.86	12.63	2.90	9.52	20.02	33.43	18.50	4.10	12.25	25.20	41.70	23.11	17.5
18.0	2.23	6.02	12.03	19.73	8.02	3.47	8.11	15.49	24.93	10.00	5.14	10.59	19.24	30.31	11.94	2.78	9.03	18.97	31.65	17.48	3.95	11.66	23.90	39.51	21.85	18.0

DHS PURLIN SYSTEM LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	DHS200/18			FR	236.50	DHS 250/13			FR	164.30	DHS 250/15			FR	208.20	DHS 250/18			FR	255.50	DHS 250/24			FR	400.10	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	109.70	142.00	142.00	142.00	940.80	94.50	94.50	94.5	94.5	1272	117.40	117.60	117.6	117.6	1468	152.50	154.00	154	154	1759	216.80	238.60	238.6	238.6	2373	3.0
3.5	81.58	142.00	142.00	142.00	691.20	77.49	94.5	94.5	94.5	934.6	95.64	117.6	117.6	117.6	1079	121.90	154	154	154	1292	164.60	238.6	238.6	238.6	1744	3.5
4.0	63.21	142.00	142.00	142.00	529.20	63.79	94.5	94.5	94.5	715.5	78.36	117.6	117.6	117.6	825.9	96.42	154	154	154	989.4	128.00	238.6	238.6	238.6	1335	4.0
4.5	50.56	142.00	142.00	142.00	418.10	53.51	94.5	94.5	94.5	565.4	64.36	117.6	117.6	117.6	652.6	76.91	154	154	154	781.8	102.60	238.6	238.6	238.6	1055	4.5
5.0	41.47	142.00	142.00	142.00	338.70	45.17	94.5	94.5	94.5	457.9	52.69	117.6	117.6	117.6	528.6	62.85	154	154	154	633.2	84.30	238.6	238.6	238.6	854.4	5.0
5.5	34.73	128.30	142.00	142.00	279.90	38.05	94.5	94.5	94.5	378.5	43.82	117.6	117.6	117.6	436.9	52.39	154	154	154	523.3	70.68	238.6	238.6	238.6	706.1	5.5
6.0	29.59	109.70	142.00	142.00	235.20	32.13	94.5	94.5	94.5	318	37.05	117.4	117.6	117.6	367.1	44.40	152.5	154	154	439.7	60.27	216.8	238.6	238.6	593.3	6.0
6.5	25.58	94.04	142.00	142.00	200.40	27.51	86.02	94.5	94.5	271	31.77	106.4	117.6	117.6	312.8	38.16	137.7	154	154	374.7	52.14	189.3	238.6	238.6	505.5	6.5
7.0	22.40	81.58	142.00	142.00	172.80	23.84	77.49	94.5	94.5	233.6	27.57	95.64	117.6	117.6	269.7	33.20	121.9	154	154	323.1	45.66	164.6	238.6	238.6	435.9	7.0
7.5	19.83	71.49	142.00	142.00	150.50	20.87	70.12	94.5	94.5	203.5	24.18	86.35	117.6	117.6	234.9	29.19	108.7	154	154	281.4	40.43	144.5	238.6	238.6	379.7	7.5
8.0	17.73	63.21	132.20	142.00	132.30	18.44	63.79	94.5	94.5	178.9	21.39	78.36	117.6	117.6	206.5	25.90	96.42	154	154	247.4	36.14	128	238.6	238.6	333.7	8.0
8.5	15.98	56.33	119.40	142.00	117.20	16.42	58.31	94.5	94.5	158.5	19.08	70.87	117.6	117.6	182.9	23.18	85.83	154	154	219.1	32.57	114.2	231.8	238.6	295.6	8.5
9.0	14.52	50.56	107.10	142.00	104.50	14.73	53.51	93.37	94.5	141.3	17.15	64.36	115.7	117.6	163.1	20.89	76.91	150.3	154	195.4	29.58	102.6	212.6	238.6	263.7	9.0
9.5	13.28	45.66	96.54	142.00	93.82	13.30	49.26	87.55	94.5	126.9	15.51	58.2	108.4	117.6	146.4	18.95	69.33	140.3	154	175.4	27.05	92.75	194.2	238.6	236.7	9.5
10.0	12.22	41.47	87.50	140.80	84.67	12.07	45.17	81.67	94.5	114.5	14.11	52.69	100.9	117.6	132.1	17.29	62.85	129.5	154	158.3	24.88	84.3	176.3	238.6	213.6	10.0
10.5	11.31	37.86	79.69	130.70	76.80	11.02	41.58	76.13	94.5	103.8	12.90	47.94	93.93	117.6	119.9	15.86	57.25	119.5	154	143.6	23.02	77.01	160.8	238.6	193.7	10.5
11.0	10.52	34.73	72.91	120.90	69.98	10.10	38.05	71.17	94.5	94.62	11.85	43.82	87.68	117.6	109.2	14.63	52.39	110.5	154	130.8	21.40	70.68	147.3	233.9	176.5	11.0
11.5	9.83	31.99	66.97	111.20	64.02	9.30	34.9	66.69	94.5	86.57	10.94	40.22	82.03	117.6	99.92	13.55	48.13	102.2	153.8	119.7	19.99	65.14	135.5	219.3	161.5	11.5
12.0	9.22	29.59	61.76	102.50	58.80	8.60	32.13	62.65	90.93	79.51	10.14	37.05	76.85	112.7	91.77	12.60	44.4	94.19	146.1	109.9	18.75	60.27	125.1	204.9	148.3	12.0
12.5	8.69	27.47	57.15	94.78	54.19	7.99	29.68	58.96	86.48	73.27	9.43	34.25	71.77	107	84.58	11.76	41.09	87.08	138.5	101.3	17.65	55.96	115.8	190.7	136.7	12.5
13.0	8.21	25.58	53.05	87.91	50.10	7.44	27.51	55.6	81.96	67.74	8.80	31.77	67.19	101.3	78.19	11.02	38.16	80.76	130.1	93.67	16.68	52.14	107.6	177.1	126.4	13.0
13.5	7.79	23.90	49.40	81.78	46.46	6.95	25.57	52.53	77.63	62.82	8.24	29.56	63.03	95.81	72.51	10.36	35.54	75.12	122.2	86.86	15.81	48.72	100.3	165	117.2	13.5
14.0	7.41	22.40	46.13	76.28	43.20	6.51	23.84	49.7	73.66	58.41	7.74	27.57	58.81	90.81	67.42	9.77	33.2	70.06	115	80.77	15.04	45.66	93.7	154	109	14.0
14.5	7.07	21.05	43.19	71.33	40.27	6.12	22.28	46.86	69.99	54.45	7.29	25.79	54.95	86.19	62.85	9.23	31.09	65.51	108.4	75.29	14.34	42.91	87.76	144.2	101.6	14.5
15.0	6.77	19.83	40.53	66.86	37.63	5.76	20.87	44.24	66.61	50.88	6.88	24.18	51.46	81.92	58.73	8.75	29.19	61.39	102	70.36	13.71	40.43	82.41	135.3	94.93	15.0
15.5	6.49	18.73	38.12	62.81	35.24	5.44	19.6	41.85	63.47	47.65	6.52	22.72	48.29	77.96	55.01	8.32	27.47	57.66	95.8	65.89	13.15	38.18	77.55	127.2	88.9	15.5
16.0	6.24	17.73	35.94	59.13	33.07	5.15	18.44	39.45	60.56	44.72	6.18	21.39	45.42	73.96	51.62	7.92	25.9	54.27	90.13	61.84	12.63	36.14	73.14	119.8	83.43	16.0
16.5	6.01	16.81	33.95	55.78	31.10	4.88	17.38	37.16	57.85	42.05	5.88	20.19	42.8	70.24	48.54	7.56	24.48	51.18	84.96	58.15	12.16	34.28	69.11	113.1	78.45	16.5
17.0	5.80	15.98	32.13	52.71	29.30	4.64	16.42	35.06	55.32	39.61	5.60	19.08	40.4	66.8	45.73	7.24	23.18	48.35	80.23	54.78	11.73	32.57	65.42	106.9	73.91	17.0
17.5	5.61	15.22	30.46	49.90	27.65	4.42	15.54	33.14	52.95	37.38	5.35	18.07	38.21	63.6	43.15	6.93	21.98	45.76	75.89	51.69	11.34	31.01	62.05	101.3	69.74	17.5
18.0	5.43	14.52	28.93	47.31	26.13	4.22	14.73	31.38	50.73	35.34	5.12	17.15	36.19	60.37	40.79	6.66	20.89	43.38	71.89	48.86	10.98	29.58	58.94	96.08	65.92	18.0

DHS PURLIN SYSTEM LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	DHS 300/15			FR	202.20	DHS 300/18			FR	254.60	DHS 300/24			FR	411.20	DHS 300/30			FR	557.7	DHS 350/18			FR	257.6	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	124.80	124.80	124.8	124.8	2514	164.80	164.80	164.8	164.8	3015	259.10	259.10	259.1	259.1	4078	352.20	352.20	352.2	352.2	5033	161.20	161.20	161.2	161.2	4403	3.0
3.5	117.20	124.8	124.8	124.8	1847	154.50	164.8	164.8	164.8	2215	235.90	259.1	259.1	259.1	2996	302.20	352.2	352.2	352.2	3698	159.30	161.2	161.2	161.2	3235	3.5
4.0	98.88	124.8	124.8	124.8	1414	129.80	164.8	164.8	164.8	1696	192.50	259.1	259.1	259.1	2294	243.80	352.2	352.2	352.2	2831	134.20	161.2	161.2	161.2	2477	4.0
4.5	83.71	124.8	124.8	124.8	1117	109.50	164.8	164.8	164.8	1340	158.90	259.1	259.1	259.1	1813	195.60	352.2	352.2	352.2	2237	113.60	161.2	161.2	161.2	1957	4.5
5.0	71.95	124.8	124.8	124.8	905.1	92.55	164.8	164.8	164.8	1085	132.00	259.1	259.1	259.1	1468	160.70	352.2	352.2	352.2	1812	96.37	161.2	161.2	161.2	1585	5.0
5.5	62.60	124.8	124.8	124.8	748	79.12	164.8	164.8	164.8	897.1	110.20	259.1	259.1	259.1	1213	134.70	352.2	352.2	352.2	1497	82.69	161.2	161.2	161.2	1310	5.5
6.0	54.51	124.8	124.8	124.8	628.5	68.49	164.8	164.8	164.8	753.8	93.50	259.1	259.1	259.1	1020	114.70	352.2	352.2	352.2	1258	71.86	161.2	161.2	161.2	1101	6.0
6.5	47.74	124.8	124.8	124.8	535.5	59.77	164.8	164.8	164.8	642.3	80.46	258.6	259.1	259.1	868.8	99.12	332.3	352.2	352.2	1072	63.10	161.2	161.2	161.2	937.9	6.5
7.0	42.20	117.2	124.8	124.8	461.8	51.83	154.5	164.8	164.8	553.8	70.05	235.9	259.1	259.1	749.1	86.67	302.2	352.2	352.2	924.4	55.91	159.3	161.2	161.2	808.7	7.0
7.5	37.59	108	124.8	124.8	402.3	45.42	142.1	164.8	164.8	482.4	61.63	213.7	259.1	259.1	652.5	76.59	272.5	352.2	352.2	805.3	49.91	146.7	161.2	161.2	704.5	7.5
8.0	33.45	98.88	124.8	124.8	353.5	40.15	129.8	164.8	164.8	424	54.71	192.5	259.1	259.1	573.5	68.31	243.8	352.2	352.2	707.7	44.53	134.2	161.2	161.2	619.1	8.0
8.5	29.75	90.78	124.8	124.8	313.2	35.78	119	164.8	164.8	375.6	48.97	174.5	259.1	259.1	508	61.43	217.7	352.2	352.2	626.9	39.64	123.2	161.2	161.2	548.4	8.5
9.0	26.65	83.71	124.8	124.8	279.3	32.11	109.5	164.8	164.8	335	44.14	158.9	259.1	259.1	453.2	55.64	195.6	352.2	352.2	559.2	35.53	113.6	161.2	161.2	489.2	9.0
9.5	24.03	77.48	124.8	124.8	250.7	28.99	100.7	164.8	164.8	300.7	40.05	145.4	259.1	259.1	406.7	50.74	176.8	337.7	352.2	501.9	32.06	104.6	161.2	161.2	439.1	9.5
10.0	21.78	71.95	121.8	124.8	226.3	26.33	92.55	160.7	164.8	271.4	36.56	132	247.3	259.1	367.1	46.55	160.7	317.2	352.2	453	29.08	96.37	161.2	161.2	396.3	10.0
10.5	19.85	67.02	115.6	124.8	205.2	24.04	85.43	152.3	164.8	246.1	33.54	120.3	232.1	259.1	332.9	42.94	146.8	297	352.2	410.8	26.51	89.12	157.1	161.2	359.4	10.5
11.0	18.17	62.6	109.4	124.8	187	22.05	79.12	144	164.8	224.3	30.93	110.2	217.1	259.1	303.4	39.80	134.7	277.1	352.2	374.3	24.29	82.69	148.6	161.2	327.5	11.0
11.5	16.71	58.48	103.2	124.8	171.1	20.32	73.51	135.5	164.8	205.2	28.64	101.3	202.2	259.1	277.5	37.06	124.1	257.7	352.2	342.5	22.34	76.97	140.1	161.2	299.6	11.5
12.0	15.42	54.51	97.19	124.8	157.1	18.79	68.49	127.5	164.8	188.4	26.63	93.5	188.8	259.1	254.9	34.66	114.7	238.3	349.7	314.6	20.63	71.86	131.9	161.2	275.2	12.0
12.5	14.29	50.95	91.76	124.8	144.8	17.45	63.98	120.3	164.8	173.7	24.86	86.59	176.6	259.1	234.9	32.53	106.5	220.8	333.9	289.9	19.12	67.26	124.5	161.2	253.6	12.5
13.0	13.28	47.74	86.8	122.1	133.9	16.25	59.77	113.6	161.1	160.6	23.29	80.46	165.7	248	217.2	30.64	99.12	205.2	318.2	268	17.78	63.1	117.8	161.2	234.5	13.0
13.5	12.38	44.84	82.26	117.3	124.2	15.19	55.58	107.5	154.7	148.9	21.89	74.97	155.7	236.3	201.4	28.96	92.56	191.2	302.7	248.5	16.59	59.34	111.6	159.5	217.4	13.5
14.0	11.58	42.2	78.09	112.6	115.4	14.24	51.83	101.6	148.3	138.4	20.63	70.05	146.7	224.8	187.3	27.46	86.67	178.6	287.4	231.1	15.52	55.91	105.5	153	202.2	14.0
14.5	10.86	39.79	74.24	107.9	107.6	13.38	48.46	95.9	141.9	129.1	19.51	65.62	137.5	213.3	174.6	26.10	81.37	167.3	272	215.4	14.56	52.78	99.78	146.5	188.5	14.5
15.0	10.20	37.59	70.69	103	100.6	12.61	45.42	90.71	135.3	120.6	18.49	61.63	128.9	201.9	163.1	24.88	76.59	157.1	257.3	201.3	13.70	49.91	94.5	139.9	176.1	15.0
15.5	9.62	35.56	67.4	98.41	94.18	11.91	42.66	85.96	129.2	112.9	17.57	58.01	121.2	191.5	152.8	23.78	72.25	147.8	242.3	188.5	12.91	47.27	89.65	133.6	164.9	15.5
16.0	9.08	33.45	64.33	94.11	88.39	11.27	40.15	81.58	123.4	106	16.73	54.71	114.1	181.9	143.4	22.77	68.31	139.4	228.3	176.9	12.20	44.53	85.19	127.7	154.8	16.0
16.5	8.59	31.52	61.47	90.11	83.11	10.69	37.87	77.54	118.1	99.67	15.97	51.71	107.7	173	134.8	21.86	64.71	131.7	215.5	166.4	11.55	41.97	81.08	122.3	145.5	16.5
17.0	8.15	29.75	58.71	86.38	78.29	10.17	35.78	73.8	113.1	93.9	15.27	48.97	101.8	164.7	127	21.02	61.43	124.6	203.8	156.7	10.96	39.64	77.27	117.2	137.1	17.0
17.5	7.74	28.14	55.97	82.88	73.88	9.68	33.86	70.33	108.4	88.61	14.64	46.45	96.35	157.1	119.9	20.26	58.41	118.2	193.1	147.9	10.41	37.5	73.73	112.4	129.4	17.5
18.0	7.36	26.65	53.42	79.61	69.84	9.24	32.11	67.11	103.8	83.75	14.05	44.14	91.37	150	113.3	19.56	55.64	112.2	183.2	139.8	9.92	35.53	70.45	107.8	122.3	18.0

DHS PURLIN SYSTEM LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	DHS 350/24			FR	423.0	DHS 350/30			FR	583.7	DHS 400/20			FR	304.0	DHS 400/24			FR	417.7	DHS 400/30			FR	586.8	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	257.10	257.10	257.1	257.1	5962	353.60	353.60	353.6	353.6	7366	183.20	183.20	183.2	183.2	6820	250.30	250.30	250.3	250.3	8327	347.90	347.90	347.9	347.9	10300	3.0
3.5	244.30	257.1	257.1	257.1	4381	315.10	353.6	353.6	353.6	5412	183.20	183.2	183.2	183.2	5011	244.00	250.3	250.3	250.3	6118	316.40	347.9	347.9	347.9	7565	3.5
4.0	200.40	257.1	257.1	257.1	3354	257.50	353.6	353.6	353.6	4143	156.10	183.2	183.2	183.2	3836	200.60	250.3	250.3	250.3	4684	259.60	347.9	347.9	347.9	5792	4.0
4.5	166.40	257.1	257.1	257.1	2650	213.50	353.6	353.6	353.6	3274	130.20	183.2	183.2	183.2	3031	167.20	250.3	250.3	250.3	3701	216.50	347.9	347.9	347.9	4576	4.5
5.0	140.60	257.1	257.1	257.1	2146	177.40	353.6	353.6	353.6	2652	110.40	183.2	183.2	183.2	2455	141.90	250.3	250.3	250.3	2998	183.80	347.9	347.9	347.9	3707	5.0
5.5	120.50	257.1	257.1	257.1	1774	148.60	353.6	353.6	353.6	2192	95.00	183.2	183.2	183.2	2029	122.30	250.3	250.3	250.3	2477	158.30	347.9	347.9	347.9	3063	5.5
6.0	103.50	257.1	257.1	257.1	1491	126.40	353.6	353.6	353.6	1841	82.82	183.2	183.2	183.2	1705	106.60	250.3	250.3	250.3	2082	137.20	347.9	347.9	347.9	2574	6.0
6.5	88.95	257.1	257.1	257.1	1270	109.00	345.6	353.6	353.6	1569	72.96	183.2	183.2	183.2	1453	93.90	250.3	250.3	250.3	1774	118.30	346.7	347.9	347.9	2193	6.5
7.0	77.36	244.3	257.1	257.1	1095	95.13	315.1	353.6	353.6	1353	64.84	183.2	183.2	183.2	1253	83.38	244	250.3	250.3	1529	103.10	316.4	347.9	347.9	1891	7.0
7.5	67.96	221.8	257.1	257.1	954	83.87	285	353.6	353.6	1179	58.07	170.8	183.2	183.2	1091	73.88	221.6	250.3	250.3	1332	90.76	286.6	347.9	347.9	1647	7.5
8.0	60.23	200.4	257.1	257.1	838.5	74.61	257.5	353.6	353.6	1036	52.34	156.1	183.2	183.2	959.1	65.43	200.6	250.3	250.3	1171	80.62	259.6	347.9	347.9	1448	8.0
8.5	53.81	182.1	257.1	257.1	742.7	66.91	233.9	353.6	353.6	917.6	47.44	142.4	183.2	183.2	849.6	58.39	182.7	250.3	250.3	1037	72.18	236.5	347.9	347.9	1283	8.5
9.0	48.41	166.4	257.1	257.1	662.5	60.44	213.5	353.6	353.6	818.4	42.99	130.2	183.2	183.2	757.8	52.47	167.2	250.3	250.3	925.2	65.08	216.5	347.9	347.9	1144	9.0
9.5	43.83	152.6	257.1	257.1	594.6	54.94	195.3	351.1	353.6	734.6	38.79	119.6	183.2	183.2	680.1	47.45	153.7	250.3	250.3	830.4	59.04	199.1	347.9	347.9	1027	9.5
10.0	39.92	140.6	255.7	257.1	536.6	50.24	177.4	330.3	353.6	662.9	35.19	110.4	183.2	183.2	613.8	43.15	141.9	250.3	250.3	749.4	53.88	183.8	331.5	347.9	926.7	10.0
10.5	36.54	130	240.4	257.1	486.7	46.18	162	309.9	353.6	601.3	32.09	102.2	183	183.2	556.8	39.44	131.5	240.1	250.3	679.7	49.42	170.3	311.3	347.9	840.5	10.5
11.0	33.61	120.5	225.3	257.1	443.5	42.66	148.6	289.7	353.6	547.9	29.40	95	173	183.2	507.3	36.21	122.3	225.2	250.3	619.3	45.54	158.3	291.1	347.9	765.8	11.0
11.5	31.04	112.1	210.2	257.1	405.8	39.59	136.8	270.1	353.6	501.3	27.04	88.57	162.8	183.2	464.1	33.40	114	210.2	250.3	566.7	42.16	147.5	271.9	347.9	700.7	11.5
12.0	28.79	103.5	196.6	257.1	372.7	36.88	126.4	252.5	353.6	460.4	24.97	82.82	153.4	183.2	426.3	30.92	106.6	196.9	250.3	520.4	39.18	137.2	254.7	347.9	643.5	12.0
12.5	26.80	95.78	184.3	257.1	343.4	34.49	117.2	236.7	347.2	424.3	23.15	77.64	144.1	183.2	392.9	28.73	99.94	184.8	250.3	479.6	36.55	127.2	239.2	347.9	593.1	12.5
13.0	25.04	88.95	173.2	256.5	317.5	32.37	109	222.4	331.3	392.3	21.53	72.96	135.5	183.2	363.2	26.79	93.9	173.9	250.3	443.4	34.21	118.3	225.2	332.5	548.3	13.0
13.5	23.46	82.83	163.1	244.7	294.4	30.48	101.7	209.3	315.6	363.8	20.08	68.71	127.7	183.2	336.8	25.06	88.4	164	244.4	411.2	32.13	110.3	212.4	316.9	508.5	13.5
14.0	22.06	77.36	154	233	273.8	28.79	95.13	197.3	300.1	338.2	18.79	64.84	120.6	178.1	313.2	23.50	83.38	155	232.8	382.4	30.26	103.1	200.8	301.6	472.8	14.0
14.5	20.79	72.42	145.6	221.4	255.2	27.26	89.22	184.8	284.5	315.3	17.62	61.31	114.2	170.5	292	22.11	78.76	146.8	221.2	356.4	28.58	96.61	190.1	286	440.7	14.5
15.0	19.64	67.96	137.9	209.9	238.5	25.89	83.87	173.4	269.7	294.6	16.57	58.07	108.3	162.6	272.8	20.85	73.88	139.3	209.9	333.1	27.07	90.76	180.3	271.6	411.8	15.0
15.5	18.61	63.91	130.8	199.4	223.4	24.65	79.03	163.1	256.1	275.9	15.62	55.08	102.8	155.3	255.5	19.71	69.46	132.3	199.6	311.9	25.69	85.45	171.3	258.2	385.7	15.5
16.0	17.67	60.23	124.2	189.6	209.6	23.52	74.61	153.8	243.5	259	14.76	52.34	97.81	148.2	239.8	18.67	65.43	125.9	190	292.7	24.45	80.62	163	245.9	362	16.0
16.5	16.81	56.88	118.2	180.6	197.1	22.49	70.59	145.2	231.9	243.5	13.97	49.79	93.19	141.2	225.5	17.73	61.75	120	181.2	275.3	23.31	76.21	155.2	234.5	340.4	16.5
17.0	16.03	53.81	112.6	172.3	185.7	21.55	66.91	137.4	221.1	229.4	13.25	47.44	88.9	134.8	212.4	16.87	58.39	114.5	173	259.3	22.27	72.18	148.1	224	320.6	17.0
17.5	15.32	51	106.6	164.5	175.2	20.68	63.54	130.2	211.1	216.5	12.59	45.25	84.93	128.8	200.4	16.08	55.31	109.3	165.4	244.7	21.32	68.48	141.3	214.2	302.6	17.5
18.0	14.66	48.41	101.1	157.3	165.6	19.89	60.44	123.6	201.8	204.6	11.99	42.99	81.23	123.2	189.5	15.35	52.47	104.6	158.3	231.3	20.45	65.08	134.1	205	286	18.0

DHS PURLIN SYSTEM LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 150/12						DHS 150/15						DHS 150/18						DHS 200/12						DHS 200/15						DHS 200/18						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	4.76	5.12	5.12	5.12	5.12	4.73	6.28	6.97	6.97	6.97	6.97	6.07	7.66	8.90	8.90	8.90	8.90	7.27	7.30	7.60	7.60	7.60	7.60	9.93	10.42	10.42	10.42	10.42	10.42	12.89	13.39	13.39	13.39	13.39	13.39	15.91	3.0
3.5	3.02	3.76	3.76	3.76	3.76	2.98	3.96	5.12	5.12	5.12	5.12	3.82	4.83	6.54	6.54	6.54	6.54	4.58	4.93	5.58	5.58	5.58	5.58	6.26	7.11	7.65	7.65	7.65	7.65	8.12	8.90	9.84	9.84	9.84	9.84	10.02	3.5
4.0	1.89	2.88	2.88	2.88	2.88	2.00	2.48	3.92	3.92	3.92	3.92	2.56	2.96	5.01	5.01	5.01	5.01	3.07	3.38	4.28	4.28	4.28	4.28	4.19	4.75	5.86	5.86	5.86	5.86	5.44	5.91	7.53	7.53	7.53	7.53	6.71	4.0
4.5	1.24	2.28	2.28	2.28	2.28	1.40	1.59	3.10	3.10	3.10	3.10	1.80	1.90	3.81	3.96	3.96	3.96	2.15	2.33	3.38	3.38	3.38	3.38	2.94	3.14	4.63	4.63	4.63	4.63	3.82	3.88	5.95	5.95	5.95	5.95	4.71	4.5
5.0	0.84	1.82	1.84	1.84	1.84	1.02	1.07	2.40	2.51	2.51	2.51	1.31	1.28	2.92	3.21	3.21	3.21	1.57	1.63	2.72	2.74	2.74	2.74	2.15	2.14	3.75	3.75	3.75	3.75	2.78	2.59	4.82	4.82	4.82	4.82	3.44	5.0
5.5	0.59	1.40	1.52	1.52	1.52	0.77	0.74	1.85	2.07	2.07	2.07	0.99	0.90	2.27	2.65	2.65	2.65	1.18	1.15	2.16	2.26	2.26	2.26	1.61	1.51	3.10	3.10	3.10	3.10	2.09	1.80	3.98	3.98	3.98	3.98	2.58	5.5
6.0	0.42	1.08	1.28	1.28	1.28	0.59	0.54	1.43	1.74	1.74	1.74	0.76	0.66	1.76	2.23	2.23	2.23	0.91	0.84	1.73	1.90	1.90	1.90	1.24	1.08	2.50	2.60	2.60	2.60	1.61	1.29	3.18	3.35	3.35	3.35	1.99	6.0
6.5	0.31	0.83	1.09	1.09	1.09	0.47	0.40	1.10	1.49	1.49	1.49	0.60	0.49	1.34	1.87	1.90	1.90	0.71	0.63	1.40	1.62	1.62	1.62	0.98	0.80	2.02	2.22	2.22	2.22	1.27	0.96	2.53	2.85	2.85	2.85	1.56	6.5
7.0	0.24	0.64	0.94	0.94	0.94	0.37	0.30	0.84	1.28	1.28	1.28	0.48	0.38	1.01	1.56	1.64	1.64	0.57	0.48	1.13	1.40	1.40	1.40	0.78	0.60	1.61	1.91	1.91	1.91	1.02	0.72	2.01	2.46	2.46	2.46	1.25	7.0
7.5	0.18	0.49	0.81	0.82	0.82	0.30	0.24	0.65	1.08	1.12	1.12	0.39	0.30	0.78	1.31	1.43	1.43	0.47	0.37	0.92	1.22	1.22	1.22	0.64	0.46	1.28	1.67	1.67	1.67	0.82	0.56	1.60	2.14	2.14	2.14	1.02	7.5
8.0			0.69	0.72	0.72	0.25	0.19	0.50	0.91	0.98	0.98	0.32	0.24	0.60	1.11	1.25	1.25	0.38	0.29	0.74	1.05	1.07	1.07	0.52	0.36	1.01	1.47	1.47	1.47	0.68	0.44	1.26	1.88	1.88	1.88	0.84	8.0
8.5			0.58	0.64	0.64	0.21			0.77	0.87	0.87	0.27	0.19	0.48	0.94	1.10	1.11	0.32	0.23	0.61	0.90	0.95	0.95	0.44	0.29	0.81	1.30	1.30	1.30	0.57	0.35	0.99	1.67	1.67	1.67	0.70	8.5
9.0			0.49	0.57	0.57	0.18			0.65	0.77	0.77	0.22			0.80	0.96	0.99	0.27	0.18	0.49	0.78	0.84	0.84	0.37	0.23	0.65	1.12	1.16	1.16	0.48	0.29	0.79	1.43	1.49	1.49	0.59	9.0
9.5				0.51	0.51	0.15			0.55	0.69	0.70	0.19			0.67	0.84	0.89	0.23			0.68	0.76	0.76	0.31	0.19	0.53	0.98	1.04	1.04	0.41	0.24	0.64	1.23	1.34	1.34	0.50	9.5
10.0				0.46	0.46	0.13			0.46	0.60	0.63	0.16			0.56	0.73	0.80	0.20			0.59	0.68	0.68	0.27			0.85	0.94	0.94	0.35	0.20	0.53	1.06	1.21	1.21	0.43	10.0
10.5										0.53	0.57	0.14			0.47	0.64	0.73	0.17			0.51	0.61	0.62	0.23			0.73	0.85	0.85	0.30			0.91	1.09	1.09	0.37	10.5
11.0										0.47	0.52	0.12				0.57	0.66	0.15			0.45	0.54	0.57	0.20			0.63	0.77	0.77	0.26			0.79	1.00	1.00	0.32	11.0
11.5																0.51	0.61	0.13				0.49	0.52	0.18			0.54	0.70	0.71	0.23			0.68	0.90	0.91	0.28	11.5
12.0																							0.48	0.16				0.63	0.65	0.20			0.58	0.80	0.84	0.25	12.0
12.5																												0.57	0.60	0.18			0.49	0.71	0.77	0.22	12.5
13.0																												0.51	0.55	0.16				0.64	0.71	0.20	13.0
13.5																													0.51	0.14				0.57	0.66	0.17	13.5
14.0																													0.48	0.13				0.51	0.61	0.16	14.0
14.5																																					14.5
15.0																																					15.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 250/13						DHS 250/15						DHS 250/18						DHS 250/24						DHS 300/15						DHS 300/18						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	11.63	11.81	11.81	11.81	11.81	19.71	14.48	14.48	14.48	14.48	14.48	23.32	18.70	18.70	18.70	18.70	18.70	28.82	28.47	28.47	28.47	28.47	28.47	40.68	15.06	15.06	15.06	15.06	15.06	38.42	23.99	23.99	23.99	23.99	23.99	47.62	3.0
3.5	8.01	8.67	8.68	8.67	8.67	12.41	10.06	10.64	10.64	10.64	10.64	14.69	13.54	13.74	13.74	13.74	13.74	18.15	20.31	20.92	20.92	20.92	20.92	25.62	12.91	12.91	12.91	12.91	12.91	24.20	18.02	18.02	18.02	18.02	18.02	29.99	3.5
4.0	5.66	6.64	6.64	6.64	6.64	8.31	7.11	8.15	8.15	8.15	8.15	9.84	9.60	10.52	10.52	10.52	10.52	12.16	13.89	16.02	16.02	16.02	16.02	17.16	9.68	10.64	10.64	10.64	10.64	16.21	13.11	13.79	13.79	13.79	13.79	20.09	4.0
4.5	4.04	5.25	5.25	5.25	5.25	5.84	5.09	6.44	6.44	6.44	6.44	6.91	6.77	8.31	8.31	8.31	8.31	8.54	9.47	12.65	12.66	12.65	12.65	12.06	7.20	8.41	8.41	8.41	8.41	11.38	9.70	10.90	10.90	10.90	10.90	14.11	4.5
5.0	2.89	4.25	4.25	4.25	4.25	4.26	3.65	5.21	5.21	5.21	5.21	5.04	4.67	6.73	6.73	6.73	6.73	6.22	6.39	10.25	10.25	10.25	10.25	8.79	5.40	6.81	6.81	6.81	6.81	8.30	7.24	8.83	8.83	8.83	8.83	10.28	5.0
5.5	2.11	3.46	3.51	3.51	3.51	3.20	2.65	4.31	4.31	4.31	4.31	3.79	3.29	5.56	5.56	5.56	5.56	4.68	4.43	8.47	8.47	8.47	8.47	6.60	4.03	5.63	5.63	5.63	5.63	6.24	5.42	7.30	7.30	7.30	7.30	7.73	5.5
6.0	1.58	2.81	2.95	2.95	2.95	2.46	1.93	3.53	3.62	3.62	3.62	2.92	2.38	4.67	4.67	4.67	4.67	3.60	3.18	7.12	7.12	7.12	7.12	5.09	3.03	4.63	4.73	4.73	4.73	4.80	4.09	6.13	6.13	6.13	6.13	5.95	6.0
6.5	1.21	2.30	2.52	2.52	2.52	1.94	1.44	2.89	3.09	3.09	3.09	2.29	1.75	3.90	3.98	3.98	3.98	2.83	2.35	5.85	6.07	6.07	6.07	4.00	2.33	3.85	4.03	4.03	4.03	3.78	3.10	5.22	5.22	5.22	5.22	4.68	6.5
7.0	0.92	1.90	2.17	2.17	2.17	1.55	1.10	2.39	2.66	2.66	2.66	1.84	1.32	3.22	3.44	3.44	3.44	2.27	1.78	4.75	5.23	5.23	5.23	3.20	1.83	3.22	3.48	3.48	3.48	3.03	2.36	4.38	4.50	4.50	4.50	3.75	7.0
7.5	0.72	1.57	1.89	1.89	1.89	1.26	0.84	1.98	2.32	2.32	2.32	1.49	1.01	2.67	2.99	2.99	2.99	1.84	1.37	3.85	4.56	4.56	4.56	2.60	1.46	2.72	3.03	3.03	3.03	2.46	1.83	3.69	3.92	3.92	3.92	3.05	7.5
8.0	0.56	1.30	1.66	1.66	1.66	1.04	0.66	1.64	2.04	2.04	2.04	1.23	0.79	2.20	2.63	2.63	2.63	1.52	1.08	3.12	4.00	4.00	4.00	2.15	1.16	2.31	2.66	2.66	2.66	2.03	1.45	3.12	3.45	3.45	3.45	2.51	8.0
8.5	0.45	1.08	1.44	1.47	1.47	0.87	0.52	1.36	1.80	1.80	1.80	1.03	0.63	1.79	2.33	2.33	2.33	1.27	0.87	2.51	3.55	3.55	3.55	1.79	0.93	1.97	2.35	2.36	2.36	1.69	1.15	2.66	3.06	3.06	3.06	2.09	8.5
9.0	0.36	0.89	1.26	1.31	1.31	0.73	0.42	1.13	1.58	1.61	1.61	0.86	0.51	1.45	2.08	2.08	2.08	1.07	0.70	2.01	3.16	3.16	3.16	1.51	0.76	1.68	2.07	2.10	2.10	1.42	0.92	2.26	2.73	2.73	2.73	1.76	9.0
9.5	0.29	0.74	1.10	1.18	1.18	0.62	0.34	0.94	1.38	1.44	1.44	0.73	0.41	1.19	1.86	1.86	1.86	0.91	0.58	1.63	2.82	2.84	2.84	1.28	0.62	1.43	1.83	1.89	1.89	1.21	0.75	1.93	2.45	2.45	2.45	1.50	9.5
10.0	0.24	0.63	0.97	1.06	1.06	0.53	0.28	0.79	1.22	1.30	1.30	0.63	0.34	0.98	1.64	1.68	1.68	0.78	0.48	1.33	2.46	2.56	2.56	1.10	0.51	1.22	1.62	1.70	1.70	1.04	0.62	1.64	2.20	2.21	2.21	1.29	10.0
10.5	0.20	0.53	0.85	0.96	0.96	0.46	0.23	0.66	1.07	1.18	1.18	0.54	0.28	0.82	1.45	1.53	1.53	0.67	0.40	1.10	2.15	2.32	2.32	0.95	0.43	1.03	1.44	1.54	1.54	0.90	0.51	1.40	1.96	2.00	2.00	1.11	10.5
11.0			0.75	0.87	0.88	0.40	0.20	0.55	0.95	1.08	1.08	0.47	0.24	0.68	1.28	1.39	1.39	0.58	0.34	0.92	1.87	2.12	2.12	0.83	0.36	0.88	1.29	1.41	1.41	0.78	0.43	1.20	1.75	1.82	1.82	0.97	11.0
11.5			0.67	0.78	0.80	0.35			0.84	0.98	0.99	0.41	0.20	0.57	1.13	1.27	1.27	0.51	0.29	0.78	1.63	1.94	1.94	0.72	0.30	0.76	1.16	1.28	1.29	0.68	0.36	1.03	1.57	1.67	1.67	0.85	11.5
12.0			0.59	0.70	0.74	0.31			0.74	0.88	0.91	0.36			1.00	1.17	1.17	0.45	0.25	0.66	1.42	1.78	1.78	0.64	0.26	0.66	1.04	1.16	1.18	0.60	0.31	0.88	1.40	1.53	1.53	0.74	12.0
12.5			0.52	0.64	0.68	0.27			0.66	0.80	0.83	0.32			0.88	1.08	1.08	0.40	0.22	0.56	1.24	1.63	1.64	0.56	0.22	0.58	0.93	1.06	1.09	0.53	0.26	0.75	1.26	1.41	1.41	0.66	12.5
13.0				0.58	0.63	0.24			0.58	0.73	0.77	0.29			0.77	0.98	1.00	0.35			1.07	1.47	1.52	0.50	0.19	0.51	0.84	0.96	1.01	0.47	0.23	0.65	1.13	1.31	1.31	0.59	13.0
13.5				0.52	0.58	0.22			0.51	0.66	0.72	0.26			0.67	0.89	0.92	0.32			0.93	1.33	1.41	0.45			0.76	0.88	0.93	0.42	0.20	0.56	1.02	1.20	1.21	0.52	13.5
14.0				0.48	0.54	0.19				0.60	0.66	0.23			0.58	0.81	0.86	0.28			0.80	1.20	1.31	0.40			0.68	0.81	0.87	0.38			0.92	1.10	1.13	0.47	14.0
14.5					0.51	0.17				0.55	0.62	0.21			0.51	0.74	0.80	0.26			0.70	1.08	1.22	0.36			0.61	0.74	0.81	0.34			0.83	1.01	1.05	0.42	14.5
15.0					0.47	0.16				0.50	0.58	0.19				0.67	0.75	0.23			0.61	0.97	1.14	0.33			0.55	0.68	0.76	0.31			0.75	0.93	0.98	0.38	15.0
15.5											0.54	0.17				0.61	0.70	0.21			0.54	0.88	1.07	0.29			0.50	0.63	0.71	0.28			0.67	0.85	0.92	0.35	15.5
16.0											0.51	0.15				0.56	0.66	0.19				0.79	1.00	0.27				0.58	0.67	0.25			0.60	0.79	0.86	0.31	16.0
16.5																						0.71	0.94	0.24				0.54	0.63	0.23			0.55	0.72	0.81	0.29	16.5
17.0																						0.64	0.89	0.22				0.50	0.59	0.21				0.67	0.76	0.26	17.0
17.5																													0.56	0.19				0.62	0.72	0.24	17.5
18.0																													0.53	0.18				0.57	0.68	0.22	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 300/24						DHS 300/30						DHS350/18						DHS350/24						DHS 350/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	37.63	37.63	37.63	37.63	37.63	68.29	50.55	50.55	50.55	50.54	50.54	85.98	20.05	20.05	20.05	20.05	20.05	68.61	45.55	45.55	45.55	45.55	45.55	98.41	61.45	61.45	61.45	61.45	61.45	126.70	3.0
3.5	27.64	27.64	27.65	27.65	27.64	43.00	37.13	37.14	37.14	37.14	37.14	54.15	17.18	17.18	17.18	17.18	17.18	43.21	33.50	33.50	33.50	33.50	33.50	61.97	45.14	45.15	45.15	45.14	45.14	79.78	3.5
4.0	21.17	21.17	21.17	21.17	21.17	28.81	27.74	28.43	28.43	28.43	28.43	36.27	15.04	15.03	15.04	15.03	15.04	28.95	25.65	25.65	25.65	25.65	25.65	41.51	34.57	34.57	34.57	34.56	34.57	53.44	4.0
4.5	15.59	16.72	16.72	16.72	16.72	20.23	19.83	22.46	22.46	22.46	22.47	25.48	11.53	13.16	13.16	13.16	13.16	20.33	19.25	20.26	20.27	20.27	20.26	29.16	25.12	27.31	27.31	27.31	27.31	37.54	4.5
5.0	11.35	13.55	13.55	13.55	13.55	14.75	14.21	18.20	18.20	18.20	18.20	18.57	8.67	10.66	10.66	10.66	10.66	14.82	14.41	16.41	16.41	16.41	16.41	21.26	18.04	22.12	22.12	22.12	22.12	27.36	5.0
5.5	8.20	11.20	11.19	11.19	11.20	11.08	10.10	15.04	15.04	15.04	15.04	13.95	6.53	8.81	8.81	8.81	8.81	11.13	10.44	13.57	13.57	13.57	13.57	15.97	12.84	18.28	18.28	18.28	18.28	20.56	5.5
6.0	5.90	9.41	9.41	9.41	9.41	8.54	7.22	12.64	12.64	12.64	12.64	10.75	4.91	7.40	7.40	7.40	7.40	8.58	7.52	11.40	11.40	11.40	11.40	12.30	9.18	15.36	15.36	15.36	15.36	15.83	6.0
6.5	4.33	8.02	8.02	8.02	8.02	6.71	5.32	10.77	10.77	10.77	10.77	8.45	3.77	6.19	6.31	6.31	6.31	6.75	5.51	9.71	9.71	9.71	9.71	9.68	6.74	13.09	13.09	13.09	13.09	12.46	6.5
7.0	3.26	6.91	6.91	6.91	6.91	5.38	4.01	9.28	9.28	9.28	9.28	6.77	2.96	5.18	5.44	5.44	5.44	5.40	4.14	8.38	8.38	8.38	8.38	7.75	5.07	11.29	11.29	11.29	11.29	9.97	7.0
7.5	2.50	6.02	6.02	6.02	6.02	4.37	3.09	7.79	8.09	8.09	8.09	5.50	2.33	4.38	4.74	4.74	4.74	4.39	3.17	7.30	7.29	7.29	7.30	6.30	3.89	9.83	9.83	9.83	9.83	8.11	7.5
8.0	1.96	5.07	5.29	5.29	5.29	3.60	2.42	6.49	7.11	7.11	7.11	4.53	1.84	3.71	4.16	4.16	4.16	3.62	2.47	6.22	6.41	6.41	6.41	5.19	3.04	8.21	8.64	8.64	8.64	6.68	8.0
8.5	1.55	4.26	4.69	4.69	4.69	3.00	1.93	5.41	6.30	6.30	6.30	3.78	1.46	3.17	3.69	3.69	3.69	3.02	1.96	5.30	5.68	5.68	5.68	4.33	2.42	6.86	7.65	7.66	7.66	5.57	8.5
9.0	1.25	3.57	4.18	4.18	4.18	2.53	1.56	4.50	5.62	5.62	5.62	3.19	1.17	2.71	3.29	3.29	3.29	2.54	1.58	4.54	5.07	5.07	5.07	3.65	1.95	5.72	6.83	6.83	6.83	4.69	9.0
9.5	1.02	3.00	3.75	3.75	3.75	2.15	1.28	3.74	5.04	5.04	5.04	2.71	0.95	2.32	2.94	2.95	2.95	2.16	1.28	3.81	4.55	4.55	4.55	3.10	1.59	4.76	6.13	6.13	6.13	3.99	9.5
10.0	0.84	2.50	3.39	3.39	3.39	1.84	1.06	3.10	4.55	4.55	4.55	2.32	0.78	1.98	2.61	2.67	2.67	1.85	1.06	3.19	4.10	4.10	4.10	2.66	1.32	3.95	5.53	5.53	5.53	3.42	10.0
10.5	0.70	2.08	3.07	3.07	3.07	1.59	0.89	2.56	4.13	4.13	4.13	2.00	0.65	1.68	2.32	2.42	2.42	1.60	0.88	2.66	3.72	3.72	3.72	2.29	1.10	3.26	5.02	5.02	5.02	2.96	10.5
11.0	0.59	1.73	2.80	2.80	2.80	1.39	0.75	2.14	3.73	3.76	3.76	1.74	0.54	1.44	2.07	2.20	2.20	1.39	0.74	2.21	3.39	3.39	3.39	2.00	0.92	2.72	4.57	4.57	4.57	2.57	11.0
11.5	0.50	1.46	2.56	2.56	2.56	1.21	0.64	1.80	3.31	3.44	3.44	1.53	0.46	1.24	1.86	2.02	2.02	1.22	0.62	1.86	3.10	3.10	3.10	1.75	0.79	2.28	4.18	4.18	4.18	2.25	11.5
12.0	0.43	1.23	2.29	2.35	2.35	1.07	0.55	1.52	2.93	3.16	3.16	1.34	0.39	1.08	1.67	1.85	1.85	1.07	0.53	1.57	2.79	2.85	2.85	1.54	0.67	1.93	3.71	3.84	3.84	1.98	12.0
12.5	0.37	1.05	2.04	2.17	2.17	0.94	0.47	1.30	2.60	2.91	2.91	1.19	0.33	0.94	1.50	1.70	1.71	0.95	0.46	1.34	2.51	2.63	2.63	1.36	0.58	1.65	3.30	3.54	3.54	1.75	12.5
13.0	0.32	0.90	1.82	2.00	2.00	0.84	0.41	1.12	2.31	2.69	2.69	1.06	0.29	0.83	1.35	1.55	1.58	0.84	0.40	1.15	2.26	2.43	2.43	1.21	0.50	1.42	2.93	3.27	3.27	1.56	13.0
13.5	0.28	0.78	1.62	1.86	1.86	0.75	0.36	0.97	2.05	2.50	2.50	0.94	0.25	0.72	1.22	1.42	1.46	0.75	0.34	0.99	2.04	2.25	2.25	1.08	0.44	1.22	2.60	3.03	3.04	1.39	13.5
14.0	0.24	0.68	1.45	1.73	1.73	0.67	0.32	0.84	1.82	2.32	2.32	0.85	0.22	0.63	1.10	1.30	1.36	0.68	0.30	0.86	1.84	2.09	2.09	0.97	0.39	1.06	2.31	2.82	2.82	1.25	14.0
14.5	0.22	0.59	1.29	1.61	1.61	0.60	0.28	0.73	1.61	2.15	2.16	0.76	0.19	0.55	1.00	1.20	1.27	0.61	0.26	0.75	1.64	1.95	1.95	0.87	0.34	0.93	2.05	2.63	2.63	1.12	14.5
15.0			1.15	1.50	1.50	0.55	0.25	0.65	1.42	1.96	2.02	0.69			0.90	1.10	1.18	0.55	0.23	0.65	1.46	1.82	1.82	0.79	0.30	0.81	1.81	2.46	2.46	1.01	15.0
15.5			1.02	1.39	1.41	0.50	0.23	0.57	1.26	1.79	1.89	0.62			0.81	1.01	1.11	0.50	0.21	0.58	1.29	1.69	1.71	0.71	0.27	0.72	1.60	2.27	2.30	0.92	15.5
16.0			0.90	1.28	1.32	0.45			1.11	1.63	1.78	0.57			0.73	0.93	1.04	0.45			1.15	1.56	1.60	0.65	0.24	0.63	1.41	2.07	2.16	0.84	16.0
16.5			0.80	1.17	1.24	0.41			0.98	1.49	1.67	0.52			0.66	0.86	0.98	0.41			1.02	1.44	1.51	0.59			1.25	1.89	2.03	0.76	16.5
17.0			0.71	1.07	1.17	0.38			0.88	1.36	1.57	0.47			0.59	0.80	0.92	0.38			0.91	1.33	1.42	0.54			1.11	1.73	1.91	0.70	17.0
17.5			0.63	0.98	1.11	0.34			0.78	1.25	1.49	0.43			0.54	0.74	0.87	0.35			0.81	1.23	1.34	0.50			0.99	1.58	1.81	0.64	17.5
18.0			0.57	0.90	1.04	0.32			0.70	1.14	1.40	0.40				0.68	0.82	0.32			0.72	1.14	1.27	0.46			0.89	1.45	1.71	0.59	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 400/20						DHS 400/24						DHS 400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	22.21	22.21	22.21	22.21	22.21	106.90	37.66	37.66	37.66	37.66	37.66	135.30	66.89	66.89	66.89	66.89	66.89	174.70	3.0
3.5	19.04	19.04	19.04	19.04	19.04	67.29	32.28	32.28	32.28	32.28	32.28	85.22	52.95	52.94	52.95	52.94	52.94	110.00	3.5
4.0	16.66	16.66	16.66	16.66	16.66	45.08	28.07	28.25	28.25	28.25	28.25	57.09	40.54	40.54	40.54	40.54	40.54	73.70	4.0
4.5	14.81	14.81	14.81	14.81	14.81	31.66	22.26	23.68	23.68	23.68	23.68	40.10	30.88	32.03	32.03	32.03	32.03	51.77	4.5
5.0	11.95	13.33	13.33	13.33	13.33	23.08	16.74	19.18	19.18	19.18	19.18	29.23	22.21	25.94	25.94	25.94	25.94	37.74	5.0
5.5	8.99	11.92	11.92	11.92	11.92	17.34	12.55	15.85	15.85	15.85	15.85	21.96	15.83	21.44	21.44	21.44	21.44	28.35	5.5
6.0	6.80	10.01	10.01	10.01	10.01	13.36	9.26	13.32	13.32	13.32	13.32	16.92	11.29	18.02	18.02	18.02	18.02	21.84	6.0
6.5	5.22	8.53	8.53	8.53	8.53	10.51	6.78	11.35	11.35	11.35	11.35	13.30	8.28	15.35	15.35	15.35	15.35	17.18	6.5
7.0	4.10	7.20	7.36	7.36	7.36	8.41	5.09	9.79	9.79	9.79	9.79	10.65	6.22	13.24	13.24	13.24	13.24	13.75	7.0
7.5	3.22	6.07	6.41	6.41	6.41	6.84	3.89	8.45	8.53	8.53	8.53	8.66	4.77	11.53	11.53	11.53	11.53	11.18	7.5
8.0	2.51	5.15	5.63	5.63	5.63	5.63	3.03	7.18	7.49	7.49	7.49	7.14	3.72	10.10	10.13	10.13	10.13	9.21	8.0
8.5	1.98	4.38	4.99	4.99	4.99	4.70	2.40	6.13	6.64	6.64	6.64	5.95	2.95	8.44	8.98	8.98	8.98	7.68	8.5
9.0	1.59	3.74	4.45	4.45	4.45	3.96	1.93	5.25	5.92	5.92	5.92	5.01	2.38	7.05	8.01	8.01	8.01	6.47	9.0
9.5	1.29	3.20	3.99	3.99	4.00	3.37	1.57	4.49	5.31	5.31	5.31	4.26	1.94	5.87	7.19	7.19	7.19	5.50	9.5
10.0	1.06	2.73	3.60	3.60	3.60	2.88	1.29	3.83	4.80	4.80	4.80	3.65	1.60	4.87	6.49	6.49	6.49	4.72	10.0
10.5	0.88	2.34	3.22	3.27	3.27	2.49	1.07	3.26	4.35	4.35	4.35	3.16	1.33	4.03	5.88	5.88	5.88	4.08	10.5
11.0	0.73	2.00	2.88	2.98	2.98	2.17	0.90	2.73	3.96	3.96	3.96	2.75	1.12	3.35	5.36	5.36	5.36	3.54	11.0
11.5	0.62	1.73	2.58	2.73	2.73	1.90	0.76	2.29	3.59	3.63	3.63	2.40	0.95	2.81	4.90	4.90	4.90	3.10	11.5
12.0	0.53	1.50	2.31	2.50	2.50	1.67	0.65	1.94	3.22	3.33	3.33	2.11	0.81	2.38	4.50	4.50	4.50	2.73	12.0
12.5	0.45	1.31	2.08	2.31	2.31	1.48	0.55	1.65	2.90	3.07	3.07	1.87	0.70	2.03	4.05	4.15	4.15	2.42	12.5
13.0	0.39	1.15	1.87	2.13	2.13	1.31	0.48	1.41	2.62	2.84	2.84	1.66	0.60	1.74	3.60	3.84	3.84	2.15	13.0
13.5	0.34	1.00	1.69	1.97	1.98	1.17	0.41	1.22	2.37	2.63	2.63	1.49	0.52	1.50	3.21	3.56	3.56	1.92	13.5
14.0	0.29	0.87	1.52	1.81	1.84	1.05	0.36	1.06	2.14	2.45	2.45	1.33	0.46	1.30	2.85	3.31	3.31	1.72	14.0
14.5	0.26	0.76	1.37	1.66	1.72	0.95	0.32	0.92	1.93	2.28	2.28	1.20	0.41	1.14	2.52	3.08	3.08	1.55	14.5
15.0	0.23	0.66	1.24	1.52	1.60	0.85	0.28	0.80	1.74	2.12	2.13	1.08	0.36	1.00	2.24	2.88	2.88	1.40	15.0
15.5	0.20	0.58	1.12	1.40	1.50	0.77	0.25	0.71	1.56	1.95	2.00	0.98	0.32	0.88	1.98	2.70	2.70	1.27	15.5
16.0			1.01	1.29	1.41	0.70	0.22	0.62	1.41	1.80	1.87	0.89	0.28	0.78	1.75	2.53	2.53	1.15	16.0
16.5			0.91	1.19	1.32	0.64			1.26	1.67	1.76	0.81	0.26	0.69	1.54	2.33	2.38	1.05	16.5
17.0			0.83	1.10	1.25	0.59			1.12	1.54	1.66	0.74	0.23	0.61	1.37	2.13	2.24	0.96	17.0
17.5			0.75	1.02	1.18	0.54			1.00	1.43	1.57	0.68			1.23	1.95	2.12	0.88	17.5
18.0			0.68	0.94	1.11	0.49			0.89	1.32	1.48	0.63			1.10	1.78	2.00	0.81	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 150/12						DHS 150/15						DHS 150/18						DHS 200/12						DHS 200/15						DHS 200/18						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	5.12	5.12	5.12	5.12	5.12	11.37	6.97	6.97	6.97	6.97	6.97	14.60	8.91	8.90	8.90	8.90	8.90	17.48	6.15	6.15	6.15	6.15	6.15	23.88													3.0
3.5	3.76	3.76	3.76	3.76	3.76	7.16	5.12	5.12	5.12	5.12	5.12	9.19	6.54	6.54	6.54	6.54	6.54	11.01	4.86	4.86	4.86	4.86	4.86	15.04													3.5
4.0	2.88	2.88	2.88	2.88	2.88	4.80	3.92	3.92	3.92	3.92	3.92	6.16	5.01	5.01	5.01	5.01	5.01	7.37	3.92	3.92	3.92	3.92	3.92	10.08	5.86	5.86	5.86	5.86	5.86	13.07	7.53	7.53	7.53	7.53	7.53	16.13	4.0
4.5	2.28	2.28	2.28	2.28	2.28	3.37	3.10	3.10	3.10	3.10	3.10	4.33	3.90	3.96	3.96	3.96	3.96	5.18	3.23	3.23	3.23	3.23	3.23	7.08	4.63	4.63	4.63	4.63	4.63	9.18	5.95	5.95	5.95	5.95	5.95	11.33	4.5
5.0	1.84	1.84	1.84	1.84	1.84	2.46	2.50	2.51	2.51	2.51	2.51	3.15	3.03	3.21	3.21	3.21	3.21	3.77	2.70	2.70	2.70	2.70	2.70	5.16	3.75	3.75	3.75	3.75	3.75	6.69	4.82	4.82	4.82	4.82	4.82	8.26	5.0
5.5	1.49	1.52	1.52	1.52	1.52	1.85	1.96	2.07	2.07	2.07	2.07	2.37	2.38	2.65	2.65	2.65	2.65	2.84	2.22	2.26	2.26	2.26	2.26	3.88	3.10	3.10	3.10	3.10	3.10	5.03	3.99	3.98	3.98	3.98	3.98	6.21	5.5
6.0	1.18	1.28	1.28	1.28	1.28	1.42	1.56	1.74	1.74	1.74	1.74	1.83	1.91	2.23	2.23	2.23	2.23	2.19	1.80	1.90	1.90	1.90	1.90	2.99	2.59	2.60	2.60	2.60	2.60	3.87	3.31	3.35	3.35	3.35	3.35	4.78	6.0
6.5	0.94	1.09	1.09	1.09	1.09	1.12	1.24	1.49	1.49	1.49	1.49	1.44	1.53	1.90	1.90	1.90	1.90	1.72	1.48	1.62	1.62	1.62	1.62	2.35	2.12	2.22	2.22	2.22	2.22	3.05	2.68	2.85	2.85	2.85	2.85	3.76	6.5
7.0	0.75	0.94	0.94	0.94	0.94	0.90	0.99	1.28	1.28	1.28	1.28	1.15	1.22	1.62	1.64	1.64	1.64	1.38	1.22	1.40	1.40	1.40	1.40	1.88	1.75	1.91	1.91	1.91	1.91	2.44	2.18	2.46	2.46	2.46	2.46	3.01	7.0
7.5	0.60	0.82	0.82	0.82	0.82	0.73	0.79	1.12	1.12	1.12	1.12	0.93	0.96	1.37	1.43	1.43	1.43	1.12	1.01	1.22	1.22	1.22	1.22	1.53	1.43	1.67	1.67	1.67	1.67	1.98	1.78	2.14	2.14	2.14	2.14	2.45	7.5
8.0	0.48	0.72	0.72	0.72	0.72	0.60	0.64	0.96	0.98	0.98	0.98	0.77	0.77	1.17	1.24	1.25	1.25	0.92	0.84	1.07	1.07	1.07	1.07	1.26	1.17	1.47	1.47	1.47	1.47	1.63	1.46	1.88	1.88	1.88	1.88	2.02	8.0
8.5	0.39	0.62	0.64	0.64	0.64	0.50	0.51	0.82	0.87	0.87	0.87	0.64	0.62	1.00	1.07	1.11	1.11	0.77	0.70	0.93	0.95	0.95	0.95	1.05	0.96	1.30	1.30	1.30	1.30	1.36	1.19	1.67	1.67	1.67	1.67	1.68	8.5
9.0	0.32	0.53	0.57	0.57	0.57	0.42	0.41	0.71	0.76	0.77	0.77	0.54	0.50	0.86	0.93	0.99	0.99	0.65	0.58	0.81	0.84	0.84	0.84	0.88	0.78	1.16	1.16	1.16	1.16	1.15	0.97	1.49	1.49	1.49	1.49	1.42	9.0
9.5	0.26	0.46	0.50	0.51	0.51	0.36	0.34	0.61	0.66	0.70	0.70	0.46	0.42	0.75	0.81	0.89	0.89	0.55	0.49	0.71	0.75	0.76	0.76	0.75	0.65	1.03	1.04	1.04	1.04	0.98	0.79	1.31	1.34	1.34	1.34	1.20	9.5
10.0				0.46	0.46	0.31	0.28	0.52	0.58	0.63	0.63	0.39	0.35	0.65	0.71	0.80	0.80	0.47	0.41	0.63	0.66	0.68	0.68	0.64	0.54	0.90	0.94	0.94	0.94	0.84	0.66	1.15	1.21	1.21	1.21	1.03	10.0
10.5									0.50	0.57	0.57	0.34	0.29	0.56	0.62	0.73	0.73	0.41	0.35	0.55	0.59	0.62	0.62	0.56	0.45	0.80	0.85	0.85	0.85	0.72	0.55	1.00	1.09	1.09	1.09	0.89	10.5
11.0										0.52	0.52	0.30	0.25	0.48	0.55	0.66	0.66	0.35	0.29	0.49	0.52	0.57	0.57	0.48	0.39	0.70	0.76	0.77	0.77	0.63	0.47	0.88	0.97	1.00	1.00	0.78	11.0
11.5										0.47	0.47	0.26			0.48	0.59	0.61	0.31			0.47	0.52	0.52	0.42	0.33	0.61	0.68	0.71	0.71	0.55	0.40	0.77	0.86	0.91	0.91	0.68	11.5
12.0																0.54	0.56	0.27				0.47	0.48	0.37	0.28	0.54	0.60	0.65	0.65	0.48	0.34	0.67	0.76	0.84	0.84	0.60	12.0
12.5																0.48	0.51	0.24							0.24	0.47	0.54	0.60	0.60	0.43	0.29	0.59	0.67	0.77	0.77	0.53	12.5
13.0																	0.47	0.21									0.48	0.55	0.55	0.38	0.25	0.51	0.60	0.71	0.71	0.47	13.0
13.5																												0.51	0.51	0.34			0.53	0.66	0.66	0.42	13.5
14.0																												0.48	0.48	0.30				0.61	0.61	0.38	14.0
14.5																																		0.57	0.57	0.34	14.5
15.0																																		0.53	0.54	0.31	15.0
15.5																																		0.49	0.50	0.28	15.5

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 250/13						DHS 250/15						DHS 250/18						DHS 250/24						DHS 300/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0																									10.42	10.42	10.42	10.42	10.42	92.38	3.0
3.5	6.27	6.27	6.27	6.27	6.27	29.84																			8.55	8.55	8.55	8.55	8.55	58.17	3.5
4.0	5.17	5.17	5.17	5.17	5.17	19.99																			7.15	7.15	7.15	7.15	7.15	38.97	4.0
4.5	4.33	4.33	4.33	4.33	4.33	14.04																			6.06	6.06	6.06	6.06	6.06	27.37	4.5
5.0	3.67	3.67	3.67	3.67	3.67	10.23	4.88	4.88	4.88	4.88	4.88	12.11													5.20	5.20	5.20	5.20	5.20	19.95	5.0
5.5	3.15	3.15	3.15	3.15	3.15	7.69	4.16	4.16	4.16	4.16	4.16	9.10	5.56	5.56	5.56	5.56	5.56	11.25							4.50	4.50	4.50	4.50	4.50	14.99	5.5
6.0	2.72	2.72	2.72	2.72	2.72	5.92	3.58	3.58	3.58	3.58	3.58	7.01	4.68	4.67	4.67	4.67	4.67	8.66	7.12	7.12	7.12	7.12	7.12	12.23	3.93	3.93	3.93	3.93	3.93	11.55	6.0
6.5	2.36	2.38	2.38	2.38	2.38	4.66	2.96	3.09	3.09	3.09	3.09	5.51	3.98	3.98	3.98	3.98	3.98	6.81	5.98	6.07	6.07	6.07	6.07	9.62	3.46	3.46	3.46	3.46	3.46	9.08	6.5
7.0	1.97	2.09	2.09	2.09	2.09	3.73	2.47	2.66	2.66	2.66	2.66	4.41	3.314	3.44	3.44	3.44	3.44	5.46	4.92	5.23	5.23	5.23	5.23	7.70	3.07	3.07	3.07	3.07	3.07	7.27	7.0
7.5	1.65	1.86	1.86	1.86	1.86	3.03	2.07	2.32	2.32	2.32	2.32	3.59	2.781	2.99	2.99	2.99	2.99	4.43	4.05	4.56	4.56	4.56	4.56	6.26	2.74	2.74	2.74	2.74	2.74	5.91	7.5
8.0	1.39	1.65	1.65	1.65	1.65	2.50	1.74	2.04	2.04	2.04	2.04	2.96	2.346	2.63	2.63	2.63	2.63	3.65	3.34	4.00	4.00	4.00	4.00	5.16	2.37	2.45	2.45	2.45	2.45	4.87	8.0
8.5	1.17	1.47	1.47	1.47	1.47	2.08	1.47	1.80	1.80	1.80	1.80	2.47	1.97	2.33	2.33	2.33	2.33	3.05	2.76	3.55	3.55	3.55	3.55	4.30	2.04	2.21	2.21	2.21	2.21	4.06	8.5
9.0	0.99	1.30	1.31	1.31	1.31	1.76	1.25	1.61	1.61	1.61	1.61	2.08	1.642	2.08	2.08	2.08	2.08	2.57	2.28	3.16	3.16	3.16	3.16	3.62	1.76	2.00	2.00	2.00	2.00	3.42	9.0
9.5	0.84	1.14	1.18	1.18	1.18	1.49	1.06	1.43	1.44	1.44	1.44	1.77	1.366	1.86	1.86	1.86	1.86	2.18	1.88	2.84	2.84	2.84	2.84	3.08	1.52	1.82	1.82	1.82	1.82	2.91	9.5
10.0	0.71	1.01	1.06	1.06	1.06	1.28	0.90	1.27	1.30	1.30	1.30	1.51	1.14	1.68	1.68	1.68	1.68	1.87	1.56	2.56	2.56	2.56	2.56	2.64	1.31	1.66	1.66	1.66	1.66	2.49	10.0
10.5	0.61	0.89	0.94	0.96	0.96	1.11	0.77	1.12	1.18	1.18	1.18	1.31	0.9592	1.51	1.53	1.53	1.53	1.62	1.30	2.28	2.32	2.32	2.32	2.28	1.13	1.48	1.52	1.52	1.52	2.16	10.5
11.0	0.52	0.79	0.84	0.88	0.88	0.96	0.66	1.00	1.06	1.08	1.08	1.14	0.8139	1.35	1.39	1.39	1.39	1.41	1.10	2.01	2.12	2.12	2.12	1.98	0.98	1.33	1.39	1.40	1.40	1.87	11.0
11.5	0.45	0.71	0.76	0.80	0.80	0.84	0.56	0.89	0.95	0.99	0.99	1.00	0.6956	1.20	1.27	1.27	1.27	1.23	0.94	1.78	1.94	1.94	1.94	1.74	0.85	1.20	1.25	1.29	1.29	1.64	11.5
12.0	0.40	0.63	0.68	0.74	0.74	0.74	0.48	0.80	0.86	0.91	0.91	0.88	0.5953	1.07	1.16	1.17	1.17	1.08	0.81	1.57	1.74	1.78	1.78	1.53	0.74	1.08	1.14	1.18	1.18	1.44	12.0
12.5	0.35	0.57	0.61	0.68	0.68	0.66	0.42	0.71	0.77	0.83	0.83	0.78	0.512	0.96	1.04	1.08	1.08	0.96	0.70	1.39	1.56	1.64	1.64	1.35	0.65	0.98	1.03	1.09	1.09	1.28	12.5
13.0	0.30	0.51	0.55	0.63	0.63	0.58	0.36	0.64	0.70	0.77	0.77	0.69	0.4431	0.86	0.94	1.00	1.00	0.85	0.60	1.23	1.40	1.52	1.52	1.20	0.57	0.88	0.94	1.01	1.01	1.14	13.0
13.5			0.50	0.58	0.58	0.52	0.32	0.57	0.63	0.72	0.72	0.62	0.3856	0.77	0.85	0.92	0.92	0.76	0.53	1.08	1.26	1.41	1.41	1.07	0.51	0.80	0.86	0.93	0.93	1.01	13.5
14.0				0.54	0.54	0.47	0.28	0.51	0.57	0.66	0.67	0.55	0.3375	0.68	0.77	0.86	0.86	0.68	0.47	0.96	1.12	1.31	1.31	0.96	0.45	0.73	0.78	0.87	0.87	0.91	14.0
14.5				0.50	0.51	0.42			0.52	0.62	0.62	0.50	0.2967	0.60	0.70	0.80	0.80	0.61	0.41	0.84	1.01	1.22	1.22	0.87	0.40	0.67	0.72	0.81	0.81	0.82	14.5
15.0					0.47	0.38				0.58	0.58	0.45	0.2622	0.53	0.63	0.75	0.75	0.55	0.36	0.74	0.90	1.14	1.14	0.78	0.36	0.60	0.66	0.75	0.76	0.74	15.0
15.5										0.53	0.54	0.41			0.57	0.70	0.70	0.50	0.33	0.66	0.81	1.07	1.07	0.71	0.33	0.55	0.61	0.70	0.71	0.67	15.5
16.0										0.49	0.51	0.37			0.51	0.66	0.66	0.46	0.29	0.58	0.72	1.00	1.00	0.64	0.29	0.50	0.56	0.65	0.67	0.61	16.0
16.5											0.48	0.34				0.62	0.62	0.42	0.26	0.52	0.64	0.94	0.94	0.59			0.51	0.61	0.63	0.56	16.5
17.0																0.57	0.58	0.38			0.57	0.87	0.89	0.54				0.56	0.59	0.51	17.0
17.5																0.53	0.55	0.35				0.80	0.84	0.49				0.53	0.56	0.47	17.5
18.0																0.50	0.52	0.32				0.74	0.79	0.45				0.49	0.53	0.43	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 300/18						DHS 300/24						DHS 300/30						DHS 350/18						DHS 350/24						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
4.0																			10.13	10.13	10.13	10.13	10.13	69.59							4.0
4.5	8.94	8.94	8.94	8.94	8.94	33.92													8.68	8.68	8.68	8.68	8.67	48.88							4.5
5.0	7.60	7.60	7.60	7.60	7.60	24.73							18.20	18.20	18.20	18.20	18.20	44.65	7.51	7.51	7.51	7.51	7.51	35.63							5.0
5.5	6.53	6.53	6.53	6.53	6.53	18.58							15.04	15.04	15.04	15.04	15.04	33.55	6.57	6.57	6.57	6.57	6.57	26.77							5.5
6.0	5.67	5.67	5.67	5.67	5.67	14.31	9.41	9.41	9.41	9.41	9.41	20.52	12.64	12.64	12.64	12.64	12.64	25.84	5.78	5.78	5.78	5.78	5.78	20.62							6.0
6.5	4.96	4.96	4.96	4.96	4.96	11.26	8.02	8.02	8.02	8.02	8.02	16.14	10.77	10.77	10.77	10.77	10.77	20.32	5.13	5.13	5.13	5.13	5.13	16.22							6.5
7.0	4.37	4.37	4.37	4.37	4.37	9.01	6.91	6.91	6.91	6.91	6.91	12.92	9.28	9.28	9.28	9.28	9.28	16.27	4.58	4.58	4.58	4.58	4.58	12.99							7.0
7.5	3.75	3.88	3.88	3.88	3.88	7.33	6.02	6.02	6.02	6.02	6.02	10.51	7.92	8.09	8.09	8.09	8.09	13.23	4.11	4.11	4.11	4.11	4.11	10.56	7.30	7.29	7.30	7.29	7.29	15.14	7.5
8.0	3.20	3.45	3.45	3.45	3.45	6.04	5.19	5.29	5.29	5.29	5.29	8.66	6.64	7.11	7.11	7.11	7.11	10.90	3.70	3.70	3.70	3.70	3.70	8.70	6.31	6.41	6.41	6.41	6.41	12.48	8.0
8.5	2.74	3.06	3.06	3.06	3.06	5.03	4.40	4.69	4.69	4.69	4.69	7.22	5.59	6.30	6.30	6.30	6.30	9.09	3.25	3.35	3.35	3.35	3.35	7.25	5.41	5.68	5.68	5.68	5.68	10.40	8.5
9.0	2.36	2.73	2.73	2.73	2.73	4.24	3.74	4.18	4.18	4.18	4.18	6.08	4.72	5.62	5.62	5.62	5.62	7.66	2.80	3.05	3.05	3.05	3.05	6.11	4.65	5.07	5.07	5.07	5.07	8.76	9.0
9.5	2.03	2.45	2.44	2.45	2.45	3.60	3.18	3.75	3.75	3.75	3.75	5.17	3.98	5.04	5.04	5.04	5.04	6.51	2.42	2.78	2.78	2.78	2.78	5.20	4.02	4.55	4.55	4.55	4.55	7.45	9.5
10.0	1.76	2.21	2.21	2.21	2.21	3.09	2.71	3.39	3.39	3.39	3.39	4.43	3.36	4.55	4.55	4.55	4.55	5.58	2.10	2.55	2.55	2.55	2.55	4.45	3.41	4.10	4.10	4.10	4.10	6.39	10.0
10.5	1.52	2.00	2.00	2.00	2.00	2.67	2.30	3.07	3.07	3.07	3.07	3.83	2.83	4.13	4.13	4.13	4.13	4.82	1.82	2.34	2.34	2.34	2.34	3.85	2.90	3.72	3.72	3.72	3.72	5.52	10.5
11.0	1.31	1.81	1.82	1.82	1.82	2.32	1.95	2.80	2.80	2.80	2.80	3.33	2.39	3.76	3.76	3.76	3.76	4.19	1.57	2.13	2.16	2.16	2.16	3.35	2.46	3.39	3.39	3.39	3.39	4.80	11.0
11.5	1.14	1.62	1.67	1.67	1.67	2.03	1.66	2.56	2.56	2.56	2.56	2.92	2.03	3.44	3.44	3.44	3.44	3.67	1.36	1.92	2.00	2.00	2.00	2.93	2.09	3.10	3.10	3.10	3.10	4.20	11.5
12.0	1.00	1.46	1.53	1.53	1.53	1.79	1.42	2.35	2.35	2.35	2.35	2.56	1.74	3.11	3.16	3.16	3.16	3.23	1.19	1.73	1.83	1.85	1.85	2.58	1.78	2.85	2.85	2.85	2.85	3.70	12.0
12.5	0.87	1.32	1.40	1.41	1.41	1.58	1.22	2.16	2.17	2.17	2.17	2.27	1.50	2.78	2.91	2.91	2.91	2.86	1.04	1.57	1.66	1.71	1.71	2.28	1.53	2.62	2.63	2.63	2.63	3.27	12.5
13.0	0.76	1.20	1.28	1.31	1.31	1.41	1.06	1.94	2.00	2.00	2.00	2.02	1.30	2.50	2.69	2.69	2.69	2.54	0.92	1.42	1.51	1.58	1.58	2.03	1.32	2.37	2.43	2.43	2.43	2.91	13.0
13.5	0.66	1.08	1.16	1.21	1.21	1.26	0.92	1.75	1.86	1.86	1.86	1.80	1.14	2.24	2.48	2.50	2.50	2.27	0.82	1.29	1.38	1.46	1.46	1.81	1.15	2.15	2.25	2.25	2.25	2.60	13.5
14.0	0.58	0.98	1.06	1.13	1.13	1.13	0.80	1.58	1.73	1.73	1.73	1.61	1.00	2.01	2.26	2.32	2.32	2.03	0.73	1.17	1.26	1.36	1.36	1.62	1.01	1.96	2.09	2.09	2.09	2.33	14.0
14.5	0.51	0.89	0.97	1.05	1.05	1.01	0.71	1.42	1.59	1.61	1.61	1.45	0.88	1.81	2.05	2.16	2.16	1.83	0.65	1.06	1.15	1.27	1.27	1.46	0.88	1.78	1.93	1.95	1.95	2.10	14.5
15.0	0.46	0.81	0.89	0.98	0.98	0.92	0.63	1.28	1.45	1.50	1.50	1.31	0.78	1.62	1.86	2.02	2.02	1.65	0.57	0.97	1.06	1.18	1.18	1.32	0.78	1.62	1.77	1.82	1.82	1.89	15.0
15.5	0.41	0.74	0.82	0.92	0.92	0.83	0.56	1.16	1.32	1.41	1.41	1.19	0.69	1.46	1.69	1.89	1.89	1.50	0.51	0.88	0.97	1.11	1.11	1.20	0.69	1.46	1.63	1.71	1.71	1.72	15.5
16.0	0.36	0.67	0.75	0.86	0.86	0.75	0.50	1.04	1.21	1.32	1.32	1.08	0.62	1.31	1.54	1.78	1.78	1.36	0.46	0.81	0.89	1.04	1.04	1.09	0.62	1.32	1.50	1.60	1.60	1.56	16.0
16.5	0.33	0.61	0.69	0.81	0.81	0.69	0.44	0.94	1.10	1.24	1.24	0.99	0.56	1.17	1.40	1.67	1.67	1.24	0.41	0.73	0.82	0.97	0.98	0.99	0.55	1.19	1.38	1.51	1.51	1.42	16.5
17.0	0.29	0.56	0.63	0.76	0.76	0.63	0.40	0.84	1.00	1.17	1.17	0.90	0.50	1.05	1.27	1.57	1.57	1.14	0.37	0.67	0.76	0.91	0.92	0.91	0.49	1.07	1.27	1.42	1.42	1.30	17.0
17.5	0.26	0.51	0.58	0.72	0.72	0.58	0.36	0.76	0.92	1.11	1.11	0.83	0.45	0.94	1.16	1.49	1.49	1.04	0.33	0.61	0.70	0.85	0.87	0.83	0.44	0.96	1.16	1.34	1.34	1.19	17.5
18.0			0.53	0.67	0.68	0.53	0.32	0.68	0.83	1.04	1.04	0.76	0.41	0.84	1.05	1.40	1.40	0.96	0.30	0.55	0.64	0.79	0.82	0.76	0.40	0.86	1.06	1.27	1.27	1.09	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 350/30						DHS 400/20						DHS 400/24						DHS 400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
4.0																									4.0
4.5							10.25	10.25	10.25	10.25	10.25	76.12													4.5
5.0							8.97	8.97	8.97	8.97	8.97	55.49													5.0
5.5							7.91	7.91	7.91	7.91	7.91	41.69													5.5
6.0	15.36	15.36	15.36	15.36	15.36	38.07	7.04	7.04	7.04	7.03	7.04	32.11													6.0
6.5	13.09	13.09	13.09	13.09	13.09	29.95	6.29	6.29	6.29	6.29	6.29	25.26													6.5
7.0	11.29	11.29	11.29	11.29	11.29	23.98	5.66	5.66	5.66	5.66	5.66	20.22							13.24	13.24	13.24	13.24	13.24	33.07	7.0
7.5	9.83	9.83	9.83	9.83	9.83	19.49	5.12	5.12	5.12	5.12	5.12	16.44							11.53	11.53	11.53	11.53	11.53	26.88	7.5
8.0	8.37	8.64	8.64	8.64	8.64	16.06	4.65	4.64	4.64	4.64	4.64	13.55	7.06	7.06	7.05	7.06	7.05	17.16	10.13	10.13	10.13	10.13	10.13	22.15	8.0
8.5	7.05	7.66	7.66	7.66	7.66	13.39	4.23	4.23	4.23	4.23	4.23	11.30	6.24	6.39	6.39	6.39	6.39	14.30	8.63	8.98	8.98	8.98	8.98	18.47	8.5
9.0	5.94	6.83	6.83	6.83	6.83	11.28	3.85	3.87	3.87	3.87	3.87	9.52	5.38	5.82	5.82	5.82	5.82	12.05	7.28	8.01	8.01	8.01	8.01	15.56	9.0
9.5	5.02	6.13	6.13	6.13	6.13	9.59	3.32	3.55	3.56	3.56	3.55	8.09	4.64	5.31	5.31	5.31	5.31	10.25	6.14	7.19	7.19	7.19	7.19	13.23	9.5
10.0	4.23	5.53	5.53	5.53	5.53	8.22	2.87	3.27	3.27	3.27	3.27	6.94	4.00	4.79	4.79	4.80	4.80	8.79	5.17	6.49	6.49	6.49	6.49	11.34	10.0
10.5	3.56	5.02	5.02	5.02	5.02	7.10	2.49	3.02	3.02	3.02	3.02	5.99	3.46	4.35	4.35	4.35	4.35	7.59	4.35	5.88	5.88	5.88	5.88	9.80	10.5
11.0	3.00	4.57	4.57	4.57	4.57	6.18	2.15	2.80	2.80	2.80	2.80	5.21	2.99	3.96	3.96	3.96	3.96	6.60	3.66	5.36	5.36	5.36	5.36	8.52	11.0
11.5	2.54	4.18	4.18	4.18	4.18	5.41	1.87	2.60	2.60	2.60	2.60	4.56	2.55	3.63	3.63	3.63	3.63	5.78	3.10	4.90	4.90	4.90	4.90	7.46	11.5
12.0	2.17	3.84	3.84	3.84	3.84	4.76	1.63	2.40	2.42	2.42	2.42	4.01	2.17	3.33	3.33	3.33	3.33	5.08	2.64	4.50	4.50	4.50	4.50	6.56	12.0
12.5	1.87	3.51	3.54	3.54	3.54	4.21	1.43	2.17	2.25	2.25	2.25	3.55	1.87	3.02	3.07	3.07	3.07	4.50	2.27	4.15	4.15	4.15	4.15	5.81	12.5
13.0	1.62	3.15	3.27	3.27	3.27	3.74	1.27	1.96	2.10	2.10	2.10	3.16	1.61	2.73	2.84	2.84	2.84	4.00	1.96	3.84	3.84	3.84	3.84	5.16	13.0
13.5	1.41	2.82	3.04	3.04	3.04	3.34	1.12	1.78	1.91	1.97	1.97	2.82	1.40	2.48	2.63	2.63	2.63	3.57	1.71	3.46	3.56	3.56	3.56	4.61	13.5
14.0	1.24	2.54	2.82	2.82	2.82	3.00	1.00	1.62	1.75	1.84	1.84	2.53	1.22	2.26	2.43	2.45	2.45	3.20	1.50	3.11	3.31	3.31	3.31	4.13	14.0
14.5	1.09	2.28	2.59	2.63	2.63	2.70	0.89	1.47	1.60	1.72	1.72	2.27	1.07	2.06	2.23	2.28	2.28	2.88	1.31	2.79	3.08	3.08	3.08	3.72	14.5
15.0	0.96	2.05	2.35	2.46	2.46	2.44	0.79	1.34	1.47	1.60	1.60	2.06	0.95	1.88	2.05	2.13	2.13	2.60	1.16	2.51	2.88	2.88	2.88	3.36	15.0
15.5	0.86	1.84	2.14	2.30	2.30	2.21	0.69	1.22	1.35	1.50	1.50	1.86	0.84	1.71	1.88	2.00	2.00	2.36	1.03	2.25	2.63	2.70	2.70	3.05	15.5
16.0	0.76	1.65	1.95	2.16	2.16	2.01	0.62	1.11	1.24	1.41	1.41	1.69	0.75	1.55	1.73	1.87	1.87	2.15	0.92	2.02	2.39	2.53	2.53	2.77	16.0
16.5	0.68	1.48	1.77	2.03	2.03	1.83	0.55	1.01	1.14	1.32	1.32	1.54	0.67	1.41	1.60	1.76	1.76	1.96	0.82	1.81	2.17	2.38	2.38	2.52	16.5
17.0	0.61	1.32	1.61	1.91	1.91	1.67	0.49	0.92	1.04	1.25	1.25	1.41	0.60	1.29	1.47	1.66	1.66	1.79	0.74	1.62	1.98	2.24	2.24	2.31	17.0
17.5	0.55	1.18	1.46	1.81	1.81	1.53	0.44	0.84	0.96	1.18	1.18	1.29	0.54	1.18	1.35	1.57	1.57	1.64	0.66	1.45	1.80	2.12	2.12	2.12	17.5
18.0	0.50	1.06	1.33	1.71	1.71	1.41	0.40	0.77	0.89	1.10	1.11	1.19	0.48	1.06	1.24	1.48	1.48	1.51	0.60	1.30	1.63	2.00	2.00	1.95	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 150/12						DHS 150/15						DHS 150/18						DHS 200/12						DHS 200/15						DHS 200/18						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	5.98	5.98	5.98	5.98	5.98	8.95	8.13	8.13	8.13	8.13	8.13	11.49	10.39	10.39	10.39	10.39	10.39	13.75	6.70	6.71	6.71	6.70	6.70	18.79													3.0
3.5	4.39	4.39	4.39	4.39	4.39	5.64	5.98	5.98	5.98	5.98	5.98	7.23	7.63	7.63	7.63	7.63	7.63	8.66	5.35	5.35	5.35	5.33	5.35	11.83													3.5
4.0	3.36	3.36	3.36	3.36	3.36	3.78	4.58	4.58	4.58	4.58	4.58	4.85	5.71	5.84	5.84	5.84	5.84	5.80	4.35	4.35	4.35	4.36	4.35	7.93	6.83	6.83	6.83	6.83	6.83	10.29							4.0
4.5	2.66	2.66	2.66	2.66	2.66	2.65	3.53	3.62	3.62	3.62	3.62	3.40	4.27	4.62	4.62	4.62	4.62	4.07	3.61	3.61	3.61	3.60	3.61	5.57	5.40	5.40	5.40	5.40	5.40	7.22	6.95	6.95	6.94	6.95	6.95	8.92	4.5
5.0	2.03	2.15	2.15	2.15	2.15	1.93	2.68	2.93	2.93	2.93	2.93	2.48	3.25	3.74	3.74	3.74	3.74	2.97	3.03	3.03	3.03	3.03	3.03	4.06	4.38	4.38	4.38	4.38	4.38	5.27	5.63	5.63	5.63	5.63	5.63	6.50	5.0
5.5	1.55	1.78	1.78	1.78	1.78	1.45	2.05	2.42	2.42	2.42	2.42	1.86	2.52	3.09	3.09	3.09	3.09	2.23	2.43	2.58	2.58	2.58	2.58	3.05	3.50	3.62	3.62	3.62	3.62	3.96	4.44	4.65	4.65	4.65	4.65	4.88	5.5
6.0	1.19	1.49	1.49	1.49	1.49	1.12	1.57	2.03	2.03	2.03	2.03	1.44	1.91	2.59	2.60	2.60	2.60	1.72	1.94	2.22	2.22	2.22	2.22	2.35	2.80	3.04	3.04	3.04	3.04	3.05	3.49	3.91	3.91	3.91	3.91	3.76	6.0
6.5	0.91	1.27	1.27	1.27	1.27	0.88	1.20	1.73	1.73	1.73	1.73	1.13	1.45	2.14	2.21	2.21	2.21	1.35	1.56	1.89	1.89	1.89	1.89	1.85	2.21	2.59	2.59	2.59	2.59	2.40	2.75	3.33	3.33	3.33	3.33	2.96	6.5
7.0	0.70	1.10	1.10	1.10	1.10	0.70	0.92	1.46	1.49	1.49	1.49	0.90	1.10	1.78	1.88	1.91	1.91	1.08	1.25	1.63	1.63	1.63	1.63	1.48	1.74	2.23	2.23	2.23	2.23	1.92	2.17	2.87	2.87	2.87	2.87	2.37	7.0
7.5	0.55	0.92	0.96	0.96	0.96	0.57	0.71	1.22	1.30	1.30	1.30	0.74	0.86	1.49	1.59	1.66	1.66	0.88	1.01	1.39	1.42	1.42	1.42	1.20	1.37	1.94	1.95	1.95	1.95	1.56	1.70	2.50	2.50	2.50	2.50	1.93	7.5
8.0	0.44	0.77	0.84	0.84	0.84	0.47	0.56	1.02	1.11	1.14	1.14	0.61	0.68	1.25	1.35	1.46	1.46	0.73	0.82	1.19	1.25	1.25	1.25	0.99	1.09	1.71	1.71	1.71	1.71	1.29	1.33	2.20	2.20	2.20	2.20	1.59	8.0
8.5	0.35	0.65	0.71	0.74	0.74	0.39	0.45	0.86	0.95	1.01	1.01	0.51	0.54	1.05	1.15	1.29	1.29	0.60	0.67	1.02	1.08	1.10	1.10	0.83	0.88	1.48	1.51	1.51	1.51	1.07	1.06	1.88	1.95	1.95	1.95	1.32	8.5
9.0	0.29	0.54	0.61	0.66	0.66	0.33	0.36	0.71	0.81	0.90	0.90	0.43	0.44	0.87	0.99	1.15	1.15	0.51	0.54	0.88	0.94	0.99	0.99	0.70	0.71	1.28	1.35	1.35	1.35	0.90	0.86	1.61	1.74	1.74	1.74	1.11	9.0
9.5			0.52	0.60	0.60	0.28	0.30	0.59	0.69	0.81	0.81	0.36	0.37	0.71	0.85	1.04	1.04	0.43	0.45	0.76	0.82	0.88	0.88	0.59	0.59	1.10	1.19	1.21	1.21	0.77	0.70	1.38	1.52	1.56	1.56	0.95	9.5
10.0				0.54	0.54	0.24	0.25	0.48	0.59	0.73	0.73	0.31	0.30	0.58	0.72	0.92	0.94	0.37	0.37	0.66	0.72	0.80	0.80	0.51	0.48	0.94	1.04	1.09	1.09	0.66	0.58	1.17	1.32	1.41	1.41	0.81	10.0
10.5				0.49	0.49	0.21			0.49	0.66	0.66	0.27	0.26	0.48	0.60	0.82	0.85	0.32	0.31	0.57	0.63	0.72	0.72	0.44	0.40	0.79	0.92	0.99	0.99	0.57	0.49	0.99	1.15	1.28	1.28	0.70	10.5
11.0										0.60	0.61	0.23			0.50	0.73	0.77	0.28	0.26	0.49	0.56	0.66	0.66	0.38	0.34	0.67	0.80	0.90	0.90	0.49	0.41	0.83	1.00	1.16	1.16	0.61	11.0
11.5										0.53	0.55	0.20				0.65	0.71	0.24			0.49	0.60	0.60	0.33	0.29	0.57	0.69	0.83	0.83	0.43	0.35	0.70	0.86	1.06	1.06	0.53	11.5
12.0										0.48	0.51	0.18				0.58	0.65	0.21				0.54	0.55	0.29	0.24	0.48	0.59	0.76	0.76	0.38	0.30	0.59	0.74	0.98	0.98	0.47	12.0
12.5											0.47	0.16				0.52	0.60	0.19				0.49	0.51	0.26			0.51	0.70	0.70	0.34	0.26	0.51	0.63	0.90	0.90	0.42	12.5
13.0																0.47	0.55	0.17				0.45	0.47	0.23				0.65	0.65	0.30			0.54	0.83	0.83	0.37	13.0
13.5																	0.51	0.15										0.59	0.60	0.27				0.75	0.77	0.33	13.5
14.0																	0.48	0.14										0.54	0.56	0.24				0.68	0.72	0.30	14.0
14.5																												0.49	0.52	0.22				0.62	0.67	0.27	14.5
15.0																													0.49	0.20				0.56	0.63	0.24	15.0
15.5																																		0.51	0.59	0.22	15.5
16.0																																			0.55	0.20	16.0
16.5																																			0.52	0.18	16.5
17.0																																			0.49	0.17	17.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 250/13						DHS 250/15						DHS 250/18						DHS 250/24						DHS 300/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0																									11.04	11.04	11.04	11.04	11.04	72.68	3.0
3.5	6.78	6.78	6.77	6.75	6.78	23.48																			9.13	9.13	9.13	9.09	9.13	45.77	3.5
4.0	5.63	5.63	5.63	5.63	5.63	15.73																			7.68	7.68	7.68	7.68	7.68	30.66	4.0
4.5	4.75	4.75	4.75	4.74	4.75	11.05																			6.56	6.56	6.56	6.54	6.56	21.53	4.5
5.0	4.05	4.05	4.05	4.05	4.05	8.05	5.43	5.43	5.43	5.43	5.43	9.53													5.66	5.66	5.66	5.66	5.66	15.70	5.0
5.5	3.49	3.49	3.49	3.49	3.49	6.05	4.66	4.66	4.66	4.65	4.66	7.16													4.93	4.93	4.93	4.93	4.94	11.79	5.5
6.0	3.04	3.04	3.04	3.04	3.04	4.66	3.95	4.03	4.03	4.03	4.03	5.52	5.31	5.46	5.46	5.46	5.46	6.81							4.33	4.33	4.34	4.34	4.33	9.09	6.0
6.5	2.56	2.67	2.67	2.66	2.67	3.67	3.22	3.52	3.52	3.52	3.52	4.34	4.33	4.65	4.65	4.65	4.65	5.36	6.33						3.83	3.83	3.84	3.83	3.83	7.15	6.5
7.0	2.10	2.36	2.36	2.36	2.36	2.93	2.64	3.10	3.10	3.10	3.10	3.47	3.55	4.01	4.01	4.01	4.01	4.29	5.06	6.10	6.10	6.10	6.10	6.06	3.41	3.41	3.41	3.41	3.41	5.72	7.0
7.5	1.72	2.10	2.10	2.09	2.10	2.39	2.17	2.70	2.70	2.70	2.70	2.82	2.89	3.49	3.49	3.49	3.49	3.49	4.04	5.32	5.32	5.32	5.32	4.93	3.03	3.06	3.06	3.05	3.06	4.65	7.5
8.0	1.42	1.87	1.87	1.87	1.87	1.97	1.78	2.38	2.38	2.38	2.38	2.33	2.33	3.07	3.07	3.07	3.07	2.88	3.22	4.67	4.67	4.67	4.67	4.06	2.56	2.75	2.75	2.75	2.75	3.83	8.0
8.5	1.17	1.65	1.69	1.68	1.69	1.64	1.47	2.07	2.10	2.10	2.11	1.94	1.88	2.72	2.72	2.72	2.72	2.40	2.57	4.14	4.14	4.14	4.14	3.38	2.16	2.49	2.49	2.48	2.49	3.20	8.5
9.0	0.97	1.43	1.51	1.52	1.52	1.38	1.22	1.80	1.88	1.88	1.88	1.63	1.53	2.42	2.42	2.42	2.42	2.02	2.07	3.66	3.69	3.69	3.69	2.85	1.82	2.26	2.26	2.26	2.26	2.69	9.0
9.5	0.81	1.25	1.33	1.37	1.37	1.17	1.01	1.57	1.66	1.69	1.69	1.39	1.26	2.12	2.18	2.18	2.18	1.72	1.69	3.17	3.31	3.31	3.31	2.42	1.53	2.06	2.06	2.06	2.06	2.29	9.5
10.0	0.69	1.10	1.17	1.24	1.24	1.01	0.84	1.38	1.47	1.52	1.52	1.19	1.04	1.86	1.96	1.96	1.96	1.47	1.40	2.75	2.99	2.99	2.99	2.08	1.30	1.85	1.88	1.88	1.88	1.96	10.0
10.5	0.59	0.96	1.04	1.12	1.12	0.87	0.71	1.21	1.30	1.38	1.38	1.03	0.87	1.63	1.75	1.78	1.78	1.27	1.17	2.38	2.64	2.71	2.71	1.80	1.11	1.64	1.73	1.73	1.73	1.70	10.5
11.0	0.50	0.84	0.92	1.03	1.03	0.76	0.60	1.06	1.16	1.26	1.26	0.89	0.73	1.44	1.56	1.62	1.62	1.11	0.98	2.04	2.33	2.47	2.47	1.56	0.95	1.47	1.55	1.59	1.59	1.47	11.0
11.5	0.43	0.74	0.82	0.94	0.94	0.66	0.51	0.94	1.03	1.15	1.15	0.78	0.62	1.24	1.39	1.49	1.49	0.97	0.84	1.74	2.05	2.26	2.26	1.37	0.82	1.31	1.39	1.47	1.47	1.29	11.5
12.0	0.37	0.65	0.73	0.86	0.86	0.58	0.44	0.82	0.92	1.06	1.06	0.69	0.53	1.07	1.24	1.36	1.36	0.85	0.72	1.49	1.80	2.08	2.08	1.20	0.72	1.17	1.25	1.36	1.36	1.14	12.0
12.5	0.32	0.57	0.65	0.79	0.79	0.52	0.38	0.72	0.82	0.97	0.97	0.61	0.45	0.92	1.11	1.26	1.26	0.75	0.62	1.27	1.57	1.91	1.91	1.06	0.63	1.05	1.13	1.26	1.26	1.01	12.5
13.0	0.28	0.50	0.58	0.72	0.73	0.46	0.33	0.63	0.73	0.90	0.90	0.54	0.39	0.79	0.97	1.16	1.16	0.67	0.54	1.09	1.37	1.77	1.77	0.95	0.56	0.94	1.03	1.17	1.18	0.89	13.0
13.5			0.52	0.66	0.68	0.41	0.28	0.55	0.65	0.82	0.83	0.48	0.34	0.69	0.85	1.08	1.08	0.60	0.47	0.94	1.19	1.64	1.64	0.84	0.49	0.85	0.93	1.08	1.09	0.80	13.5
14.0				0.60	0.63	0.37	0.25	0.48	0.58	0.75	0.78	0.43	0.30	0.60	0.74	1.00	1.00	0.54	0.41	0.82	1.03	1.53	1.53	0.76	0.43	0.75	0.84	0.99	1.01	0.72	14.0
14.5				0.55	0.59	0.33			0.52	0.69	0.72	0.39	0.26	0.53	0.65	0.93	0.93	0.48	0.36	0.72	0.90	1.41	1.42	0.68	0.38	0.67	0.77	0.91	0.94	0.64	14.5
15.0				0.51	0.55	0.30				0.64	0.68	0.35			0.57	0.86	0.87	0.44	0.32	0.63	0.79	1.29	1.33	0.62	0.33	0.60	0.69	0.84	0.88	0.58	15.0
15.5					0.52	0.27				0.58	0.63	0.32			0.51	0.79	0.82	0.40	0.29	0.56	0.69	1.18	1.24	0.56	0.30	0.53	0.63	0.78	0.83	0.53	15.5
16.0					0.48	0.25				0.54	0.59	0.29				0.73	0.77	0.36			0.61	1.08	1.17	0.51			0.57	0.72	0.78	0.48	16.0
16.5										0.50	0.56	0.27				0.67	0.72	0.33			0.54	0.99	1.10	0.46			0.51	0.67	0.73	0.44	16.5
17.0											0.53	0.24				0.62	0.68	0.30				0.90	1.04	0.42				0.63	0.69	0.40	17.0
17.5											0.50	0.22				0.57	0.64	0.27				0.82	0.98	0.39				0.58	0.65	0.37	17.5
18.0																0.53	0.61	0.25				0.75	0.92	0.36				0.54	0.61	0.34	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 300/18						DHS 300/24						DHS 300/30						DHS 350/18						DHS 350/24						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0																			15.20	15.20	15.20	15.20	15.20	129.80							3.0
3.5																			12.69	12.69	12.69	12.63	12.68	81.73							3.5
4.0																			10.78	10.78	10.78	10.78	10.78	54.75							4.0
4.5	9.77	9.77	9.77	9.75	9.77	26.69													9.29	9.29	9.29	9.26	9.29	38.46							4.5
5.0	8.37	8.37	8.36	8.36	8.37	19.45													8.09	8.09	8.09	8.09	8.09	28.04							5.0
5.5	7.23	7.23	7.23	7.22	7.23	14.62							17.54	17.54	17.55	17.54	17.54	26.39	7.11	7.11	7.11	7.10	7.11	21.06							5.5
6.0	6.31	6.31	6.31	6.31	6.31	11.26							14.74	14.74	14.74	14.74	14.74	20.33	6.30	6.30	6.30	6.30	6.30	16.22							6.0
6.5	5.55	5.55	5.54	5.54	5.55	8.86	9.35	9.35	9.35	9.35	9.35	12.70	12.43	12.56	12.56	12.56	12.56	15.99	5.61	5.61	5.61	5.60	5.61	12.76							6.5
7.0	4.88	4.91	4.91	4.91	4.91	7.09	7.93	8.06	8.06	8.06	8.06	10.17	10.16	10.83	10.83	10.83	10.83	12.80	5.03	5.03	5.03	5.03	5.03	10.22							7.0
7.5	4.08	4.37	4.37	4.37	4.37	5.76	6.56	7.02	7.02	7.02	7.02	8.27	8.33	9.44	9.44	9.44	9.44	10.41	4.53	4.53	4.53	4.53	4.53	8.31							7.5
8.0	3.43	3.92	3.92	3.92	3.92	4.75	5.43	6.17	6.17	6.17	6.17	6.81	6.85	8.29	8.29	8.29	8.29	8.58	4.09	4.10	4.10	4.10	4.10	6.84	6.80	7.48	7.48	7.48	7.48	9.82	8.0
8.5	2.89	3.52	3.52	3.52	3.52	3.96	4.50	5.47	5.47	5.47	5.47	5.68	5.62	7.35	7.35	7.35	7.35	7.15	3.46	3.73	3.73	3.73	3.73	5.71	5.70	6.63	6.63	6.63	6.63	8.18	8.5
9.0	2.44	3.18	3.18	3.18	3.18	3.34	3.72	4.88	4.88	4.88	4.88	4.78	4.60	6.55	6.55	6.55	6.55	6.02	2.94	3.40	3.40	3.40	3.40	4.81	4.72	5.91	5.91	5.91	5.91	6.89	9.0
9.5	2.06	2.84	2.85	2.85	2.85	2.84	3.07	4.38	4.38	4.38	4.38	4.07	3.76	5.88	5.88	5.88	5.88	5.12	2.47	3.12	3.12	3.11	3.12	4.09	3.89	5.31	5.31	5.31	5.31	5.86	9.5
10.0	1.75	2.51	2.58	2.58	2.58	2.43	2.54	3.95	3.95	3.95	3.95	3.49	3.10	5.31	5.31	5.31	5.31	4.39	2.09	2.86	2.86	2.86	2.86	3.50	3.21	4.79	4.79	4.79	4.79	5.03	10.0
10.5	1.50	2.23	2.34	2.34	2.34	2.10	2.11	3.58	3.58	3.58	3.58	3.01	2.59	4.75	4.81	4.81	4.81	3.79	1.79	2.64	2.64	2.64	2.64	3.03	2.67	4.34	4.34	4.34	4.34	4.34	10.5
11.0	1.27	1.99	2.10	2.13	2.13	1.83	1.77	3.25	3.27	3.27	3.27	2.62	2.17	4.18	4.39	4.39	4.39	3.30	1.54	2.36	2.44	2.44	2.44	2.63	2.24	3.94	3.96	3.96	3.96	3.78	11.0
11.5	1.08	1.77	1.89	1.95	1.95	1.60	1.50	2.88	2.99	2.99	2.99	2.29	1.84	3.68	4.01	4.01	4.01	2.89	1.33	2.10	2.24	2.26	2.26	2.30	1.89	3.52	3.62	3.62	3.62	3.30	11.5
12.0	0.93	1.58	1.70	1.79	1.79	1.41	1.28	2.55	2.74	2.74	2.74	2.02	1.57	3.25	3.62	3.69	3.69	2.54	1.16	1.88	2.02	2.10	2.10	2.03	1.61	3.15	3.33	3.33	3.33	2.91	12.0
12.5	0.80	1.42	1.53	1.65	1.65	1.25	1.10	2.26	2.51	2.53	2.53	1.79	1.35	2.84	3.23	3.40	3.40	2.25	1.01	1.69	1.82	1.95	1.95	1.79	1.38	2.82	3.05	3.06	3.06	2.57	12.5
13.0	0.69	1.27	1.39	1.52	1.52	1.11	0.95	1.99	2.26	2.34	2.34	1.59	1.17	2.49	2.89	3.14	3.14	2.00	0.88	1.52	1.65	1.82	1.82	1.60	1.19	2.53	2.76	2.83	2.83	2.29	13.0
13.5	0.61	1.14	1.26	1.41	1.41	0.99	0.82	1.74	2.03	2.17	2.17	1.42	1.02	2.17	2.59	2.91	2.91	1.79	0.77	1.36	1.49	1.70	1.70	1.42	1.03	2.22	2.50	2.63	2.63	2.04	13.5
14.0	0.53	1.01	1.14	1.31	1.31	0.89	0.72	1.53	1.82	2.02	2.02	1.27	0.90	1.89	2.31	2.71	2.71	1.60	0.67	1.22	1.36	1.59	1.59	1.28	0.90	1.94	2.27	2.44	2.44	1.83	14.0
14.5	0.47	0.90	1.03	1.23	1.23	0.80	0.63	1.34	1.64	1.88	1.88	1.14	0.79	1.65	2.05	2.52	2.52	1.44	0.59	1.09	1.23	1.47	1.48	1.15	0.79	1.70	2.06	2.28	2.28	1.65	14.5
15.0	0.41	0.81	0.94	1.14	1.14	0.72	0.56	1.17	1.46	1.76	1.76	1.03	0.70	1.45	1.82	2.36	2.36	1.30	0.52	0.97	1.12	1.36	1.38	1.04	0.70	1.49	1.85	2.13	2.13	1.49	15.0
15.5	0.36	0.72	0.85	1.06	1.07	0.65	0.49	1.03	1.30	1.65	1.65	0.94	0.62	1.28	1.61	2.21	2.21	1.18	0.46	0.87	1.02	1.26	1.29	0.94	0.62	1.31	1.65	1.99	1.99	1.35	15.5
16.0	0.32	0.64	0.77	0.98	1.01	0.59	0.44	0.91	1.15	1.54	1.54	0.85	0.55	1.13	1.42	2.07	2.07	1.07	0.41	0.78	0.92	1.17	1.21	0.86	0.55	1.16	1.47	1.87	1.87	1.23	16.0
16.5	0.29	0.58	0.69	0.91	0.95	0.54	0.39	0.81	1.02	1.45	1.45	0.78	0.50	1.00	1.26	1.95	1.95	0.98	0.36	0.71	0.83	1.08	1.14	0.78	0.49	1.03	1.30	1.76	1.76	1.12	16.5
17.0	0.26	0.52	0.63	0.85	0.89	0.50	0.35	0.72	0.91	1.37	1.37	0.71	0.45	0.90	1.12	1.81	1.84	0.89	0.32	0.64	0.75	1.01	1.08	0.71	0.44	0.91	1.16	1.66	1.66	1.02	17.0
17.5			0.57	0.79	0.84	0.45	0.32	0.65	0.81	1.29	1.29	0.65	0.40	0.80	1.00	1.67	1.73	0.82	0.29	0.58	0.68	0.94	1.02	0.65	0.39	0.82	1.03	1.56	1.56	0.94	17.5
18.0			0.51	0.73	0.79	0.42	0.29	0.58	0.73	1.20	1.22	0.60	0.37	0.72	0.90	1.54	1.64	0.75	0.26	0.53	0.62	0.87	0.96	0.60	0.35	0.73	0.93	1.46	1.48	0.86	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 350/30						DHS 400/20						DHS 400/24						DHS 400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0																									3.0
3.5							14.57	14.57	14.57	14.50	14.57	127.30													3.5
4.0							12.49	12.49	12.49	12.49	12.49	85.27													4.0
4.5							10.86	10.86	10.86	10.82	10.86	59.89													4.5
5.0							9.55	9.55	9.55	9.55	9.55	43.66													5.0
5.5							8.47	8.47	8.47	8.44	8.47	32.80													5.5
6.0							7.56	7.56	7.56	7.56	7.56	25.27													6.0
6.5	15.27	15.27	15.27	15.27	15.27	23.56	6.80	6.79	6.80	6.78	6.80	19.87													6.5
7.0	12.84	13.17	13.17	13.17	13.17	18.86	6.14	6.14	6.14	6.14	6.14	15.91													7.0
7.5	10.53	11.47	11.47	11.47	11.47	15.34	5.57	5.57	5.57	5.56	5.57	12.94							12.93	13.45	13.45	13.45	13.45	21.15	7.5
8.0	8.66	10.08	10.08	10.08	10.08	12.64	5.08	5.08	5.08	5.08	5.08	10.66	7.81	7.81	7.81	7.81	7.81	13.50	10.62	11.82	11.82	11.82	11.82	17.43	8.0
8.5	7.11	8.93	8.93	8.93	8.93	10.54	4.65	4.65	4.65	4.64	4.65	8.89	6.65	7.10	7.10	7.10	7.10	11.25	8.73	10.47	10.47	10.47	10.47	14.53	8.5
9.0	5.83	7.97	7.97	7.97	7.97	8.88	4.02	4.27	4.27	4.27	4.27	7.49	5.61	6.49	6.49	6.49	6.49	9.48	7.15	9.34	9.34	9.34	9.34	12.24	9.0
9.5	4.76	7.15	7.15	7.15	7.15	7.55	3.40	3.93	3.93	3.93	3.93	6.37	4.73	5.94	5.94	5.94	5.94	8.06	5.84	8.39	8.38	8.38	8.39	10.41	9.5
10.0	3.92	6.45	6.45	6.45	6.45	6.47	2.89	3.63	3.63	3.63	3.63	5.46	3.94	5.46	5.46	5.46	5.46	6.91	4.80	7.57	7.57	7.57	7.57	8.92	10.0
10.5	3.26	5.85	5.85	5.85	5.85	5.59	2.46	3.36	3.36	3.36	3.36	4.71	3.27	5.03	5.03	5.03	5.03	5.97	3.98	6.86	6.86	6.86	6.86	7.71	10.5
11.0	2.73	5.28	5.33	5.33	5.33	4.86	2.12	3.12	3.12	3.12	3.12	4.10	2.74	4.54	4.62	4.62	4.62	5.19	3.34	6.25	6.25	6.25	6.25	6.70	11.0
11.5	2.31	4.66	4.88	4.88	4.88	4.25	1.84	2.90	2.90	2.90	2.90	3.59	2.31	4.06	4.23	4.23	4.23	4.54	2.82	5.72	5.72	5.72	5.72	5.87	11.5
12.0	1.97	4.11	4.48	4.48	4.48	3.74	1.60	2.61	2.71	2.71	2.71	3.16	1.97	3.64	3.89	3.89	3.89	4.00	2.40	5.05	5.25	5.26	5.26	5.16	12.0
12.5	1.69	3.61	4.09	4.13	4.13	3.31	1.40	2.33	2.53	2.53	2.53	2.79	1.68	3.27	3.52	3.58	3.58	3.54	2.06	4.43	4.84	4.84	4.84	4.57	12.5
13.0	1.46	3.15	3.66	3.82	3.82	2.95	1.20	2.09	2.28	2.37	2.37	2.48	1.45	2.94	3.19	3.31	3.31	3.15	1.78	3.88	4.48	4.48	4.48	4.06	13.0
13.5	1.27	2.75	3.28	3.54	3.54	2.63	1.04	1.88	2.07	2.22	2.22	2.22	1.26	2.64	2.89	3.07	3.07	2.81	1.54	3.38	4.03	4.15	4.15	3.63	13.5
14.0	1.11	2.39	2.93	3.29	3.29	2.36	0.91	1.69	1.88	2.09	2.09	1.99	1.10	2.36	2.63	2.85	2.86	2.52	1.35	2.95	3.61	3.86	3.86	3.25	14.0
14.5	0.98	2.09	2.61	3.07	3.07	2.12	0.79	1.51	1.70	1.97	1.97	1.79	0.96	2.10	2.39	2.66	2.66	2.27	1.18	2.57	3.21	3.60	3.60	2.93	14.5
15.0	0.86	1.83	2.31	2.87	2.87	1.92	0.70	1.35	1.55	1.85	1.85	1.62	0.85	1.84	2.17	2.49	2.49	2.05	1.04	2.25	2.85	3.36	3.36	2.64	15.0
15.5	0.77	1.61	2.05	2.69	2.69	1.74	0.62	1.21	1.41	1.75	1.75	1.47	0.75	1.61	1.97	2.33	2.33	1.86	0.92	1.98	2.52	3.15	3.15	2.40	15.5
16.0	0.68	1.43	1.81	2.52	2.52	1.58	0.55	1.09	1.28	1.62	1.64	1.33	0.66	1.43	1.79	2.19	2.19	1.69	0.82	1.75	2.23	2.96	2.96	2.18	16.0
16.5	0.61	1.27	1.60	2.37	2.37	1.44	0.49	0.98	1.16	1.50	1.55	1.22	0.59	1.26	1.61	2.06	2.06	1.54	0.73	1.55	1.98	2.78	2.78	1.99	16.5
17.0	0.55	1.13	1.43	2.23	2.23	1.32	0.44	0.89	1.05	1.40	1.46	1.11	0.53	1.13	1.43	1.94	1.94	1.41	0.66	1.38	1.76	2.62	2.62	1.82	17.0
17.5	0.49	1.01	1.27	2.11	2.11	1.21	0.39	0.81	0.95	1.30	1.37	1.02	0.48	1.00	1.28	1.81	1.83	1.29	0.59	1.24	1.57	2.47	2.47	1.67	17.5
18.0	0.45	0.91	1.14	1.95	1.99	1.11	0.35	0.74	0.87	1.21	1.30	0.94	0.43	0.90	1.14	1.68	1.73	1.19	0.54	1.11	1.40	2.34	2.34	1.53	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 150/12						DHS 150/15						DHS 150/18						DHS 200/12						DHS 200/15						DHS 200/18						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	6.20	6.20	6.20	6.20	6.20	12.46	8.44	8.44	8.44	8.44	8.44	16.00	10.78	10.78	10.78	10.78	10.78	19.15	6.97	6.97	6.97	6.97	6.97	26.16	11.29	11.29	11.29	11.29	11.29	33.95	16.22	16.22	16.22	16.22	16.22	41.90	3.0
3.5	4.56	4.56	4.56	4.56	4.56	7.85	6.20	6.20	6.20	6.20	6.20	10.07	7.92	7.92	7.92	7.92	7.92	12.06	5.56	5.56	5.56	5.56	5.56	16.47	8.84	8.84	8.84	8.84	8.84	21.38	11.92	11.92	11.92	11.91	11.92	26.38	3.5
4.0	3.49	3.49	3.49	3.49	3.49	5.26	4.75	4.75	4.75	4.75	4.75	6.75	6.07	6.07	6.07	6.07	6.07	8.08	4.52	4.52	4.52	4.52	4.52	11.04	7.09	7.09	7.09	7.09	7.09	14.32	9.12	9.12	9.12	9.12	9.12	17.68	4.0
4.5	2.76	2.76	2.76	2.76	2.76	3.69	3.75	3.75	3.75	3.75	3.75	4.74	4.61	4.79	4.79	4.79	4.79	5.67	3.75	3.75	3.75	3.75	3.75	7.75	5.61	5.61	5.61	5.61	5.61	10.06	7.21	7.21	7.21	7.21	7.21	12.41	4.5
5.0	2.22	2.23	2.23	2.23	2.23	2.69	2.93	3.04	3.04	3.04	3.04	3.46	3.55	3.88	3.88	3.88	3.88	4.14	3.15	3.15	3.15	3.15	3.15	5.65	4.54	4.54	4.54	4.54	4.54	7.33	5.84	5.84	5.84	5.84	5.84	9.05	5.0
5.5	1.74	1.84	1.84	1.84	1.84	2.02	2.28	2.51	2.51	2.51	2.51	2.60	2.78	3.21	3.21	3.21	3.21	3.11	2.63	2.68	2.68	2.68	2.68	4.25	3.75	3.75	3.75	3.75	3.75	5.51	4.83	4.83	4.83	4.83	4.83	6.80	5.5
6.0	1.37	1.55	1.55	1.55	1.55	1.56	1.79	2.11	2.11	2.11	2.11	2.00	2.21	2.70	2.70	2.70	2.70	2.39	2.12	2.30	2.30	2.30	2.30	3.27	3.05	3.15	3.15	3.15	3.15	4.24	3.85	4.05	4.06	4.06	4.05	5.24	6.0
6.5	1.08	1.32	1.32	1.32	1.32	1.23	1.41	1.80	1.80	1.80	1.80	1.57	1.72	2.29	2.30	2.30	2.30	1.88	1.73	1.96	1.96	1.96	1.96	2.57	2.49	2.69	2.69	2.69	2.69	3.34	3.09	3.46	3.46	3.46	3.46	4.12	6.5
7.0	0.85	1.14	1.14	1.14	1.14	0.98	1.11	1.55	1.55	1.55	1.55	1.26	1.35	1.91	1.98	1.98	1.98	1.51	1.41	1.69	1.69	1.69	1.69	2.06	2.01	2.32	2.32	2.32	2.32	2.67	2.49	2.98	2.98	2.98	2.98	3.30	7.0
7.5	0.67	0.99	0.99	0.99	0.99	0.80	0.88	1.33	1.35	1.35	1.35	1.02	1.05	1.61	1.71	1.73	1.73	1.23	1.16	1.47	1.47	1.47	1.47	1.67	1.62	2.02	2.02	2.02	2.02	2.17	2.01	2.60	2.60	2.60	2.60	2.68	7.5
8.0	0.53	0.85	0.87	0.87	0.87	0.66	0.69	1.12	1.19	1.19	1.19	0.84	0.83	1.37	1.46	1.52	1.52	1.01	0.96	1.28	1.29	1.29	1.29	1.38	1.31	1.77	1.77	1.77	1.77	1.79	1.62	2.28	2.28	2.28	2.28	2.21	8.0
8.5	0.43	0.72	0.77	0.77	0.77	0.55	0.56	0.96	1.03	1.05	1.05	0.70	0.67	1.17	1.25	1.34	1.34	0.84	0.79	1.10	1.15	1.15	1.15	1.15	1.06	1.57	1.57	1.57	1.57	1.49	1.30	2.02	2.02	2.02	2.02	1.84	8.5
9.0	0.35	0.61	0.67	0.69	0.69	0.46	0.45	0.81	0.89	0.94	0.94	0.59	0.55	1.00	1.08	1.20	1.20	0.71	0.66	0.96	1.01	1.02	1.02	0.97	0.87	1.38	1.40	1.40	1.40	1.26	1.06	1.76	1.80	1.80	1.80	1.55	9.0
9.5	0.29	0.52	0.58	0.62	0.62	0.39	0.37	0.69	0.77	0.84	0.84	0.50	0.45	0.86	0.94	1.08	1.08	0.60	0.55	0.83	0.89	0.92	0.92	0.82	0.71	1.20	1.26	1.26	1.26	1.07	0.87	1.52	1.62	1.62	1.62	1.32	9.5
10.0	0.24	0.45	0.50	0.56	0.56	0.34	0.31	0.59	0.66	0.76	0.76	0.43	0.38	0.72	0.82	0.97	0.97	0.52	0.45	0.73	0.78	0.83	0.83	0.71	0.60	1.05	1.13	1.14	1.14	0.92	0.72	1.32	1.44	1.46	1.46	1.13	10.0
10.5				0.51	0.51	0.29	0.26	0.50	0.57	0.69	0.69	0.37	0.32	0.61	0.71	0.87	0.88	0.45	0.38	0.64	0.69	0.75	0.75	0.61	0.50	0.92	1.00	1.03	1.03	0.79	0.60	1.15	1.27	1.32	1.32	0.98	10.5
11.0				0.46	0.46	0.25			0.50	0.63	0.63	0.32	0.27	0.52	0.61	0.78	0.80	0.39	0.32	0.56	0.61	0.68	0.68	0.53	0.42	0.80	0.88	0.94	0.94	0.69	0.51	0.99	1.11	1.21	1.21	0.85	11.0
11.5										0.57	0.57	0.28			0.53	0.70	0.73	0.34	0.28	0.49	0.54	0.63	0.63	0.46	0.36	0.69	0.78	0.86	0.86	0.60	0.43	0.86	0.98	1.10	1.10	0.74	11.5
12.0										0.52	0.53	0.25				0.63	0.67	0.30			0.48	0.58	0.58	0.41	0.31	0.60	0.69	0.79	0.79	0.53	0.37	0.75	0.86	1.01	1.01	0.65	12.0
12.5										0.46	0.49	0.22				0.56	0.62	0.26				0.53	0.53	0.36	0.26	0.52	0.61	0.73	0.73	0.47	0.32	0.64	0.76	0.93	0.93	0.58	12.5
13.0																0.51	0.57	0.24				0.48	0.49	0.32			0.53	0.67	0.67	0.42	0.28	0.56	0.67	0.86	0.86	0.51	13.0
13.5																0.46	0.53	0.21					0.45	0.29			0.47	0.62	0.62	0.37	0.24	0.48	0.59	0.80	0.80	0.46	13.5
14.0																	0.50	0.19										0.57	0.58	0.33			0.51	0.74	0.74	0.41	14.0
14.5																	0.46	0.17										0.53	0.54	0.30				0.67	0.69	0.37	14.5
15.0																												0.48	0.50	0.27				0.61	0.65	0.34	15.0
15.5																													0.47	0.25				0.56	0.61	0.30	15.5
16.0																																		0.51	0.57	0.28	16.0
16.5																																			0.54	0.25	16.5
17.0																																			0.51	0.23	17.0
17.5																																			0.48	0.21	17.5

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 250/13						DHS 250/15						DHS 250/18						DHS 250/24						DHS 300/15						DHS 300/18						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	8.64	8.63	8.63	8.63	8.63	51.91	11.97	11.97	11.97	11.97	11.97	61.43													11.48	11.48	11.48	11.48	11.48	101.20	17.59	17.59	17.59	17.59	17.59	125.40	3.0
3.5	7.04	7.04	7.04	7.04	7.04	32.69	9.67	9.67	9.67	9.67	9.67	38.68													9.49	9.49	9.49	9.49	9.49	63.73	14.40	14.40	14.40	14.40	14.40	78.98	3.5
4.0	5.85	5.85	5.85	5.85	5.85	21.90	7.96	7.96	7.96	7.96	7.96	25.91	11.58	11.58	11.58	11.58	11.58	32.02							7.99	7.99	7.98	7.99	7.99	42.69	12.01	12.01	12.00	12.01	12.01	52.91	4.0
4.5	4.93	4.93	4.93	4.93	4.93	15.38	6.66	6.66	6.66	6.66	6.66	18.20	9.59	9.59	9.59	9.59	9.59	22.49							6.82	6.82	6.82	6.82	6.82	29.98	10.15	10.16	10.15	10.15	10.15	37.16	4.5
5.0	4.21	4.21	4.21	4.21	4.21	11.21	5.65	5.64	5.64	5.64	5.64	13.27	8.06	8.06	8.06	8.06	8.06	16.40							5.89	5.88	5.88	5.88	5.88	21.86	8.69	8.69	8.69	8.69	8.69	27.09	5.0
5.5	3.63	3.63	3.63	3.63	3.63	8.42	4.84	4.84	4.84	4.84	4.84	9.97	6.74	6.74	6.74	6.74	6.74	12.32							5.13	5.13	5.12	5.13	5.13	16.42	7.51	7.51	7.51	7.52	7.51	20.35	5.5
6.0	3.16	3.16	3.16	3.16	3.16	6.49	4.19	4.19	4.19	4.19	4.19	7.68	5.66	5.66	5.66	5.66	5.66	9.49							4.50	4.50	4.50	4.50	4.50	12.65	6.55	6.55	6.55	6.55	6.55	15.68	6.0
6.5	2.77	2.77	2.77	2.77	2.77	5.10	3.49	3.65	3.65	3.65	3.65	6.04	4.68	4.82	4.82	4.82	4.82	7.46	6.96	7.35	7.35	7.35	7.35	10.54	3.98	3.98	3.98	3.98	3.98	9.95	5.76	5.76	5.76	5.76	5.76	12.33	6.5
7.0	2.30	2.45	2.45	2.45	2.45	4.09	2.89	3.21	3.21	3.21	3.21	4.83	3.88	4.16	4.16	4.16	4.16	5.98	5.66	6.33	6.33	6.33	6.33	8.44	3.55	3.55	3.54	3.55	3.55	7.97	5.10	5.10	5.10	5.10	5.10	9.87	7.0
7.5	1.92	2.18	2.18	2.18	2.18	3.32	2.41	2.81	2.81	2.81	2.81	3.93	3.24	3.62	3.62	3.62	3.62	4.86	4.61	5.52	5.52	5.52	5.52	6.86	3.17	3.17	3.17	3.17	3.17	6.48	4.41	4.54	4.54	4.54	4.54	8.03	7.5
8.0	1.61	1.95	1.95	1.95	1.95	2.74	2.01	2.47	2.47	2.47	2.47	3.24	2.69	3.19	3.19	3.19	3.19	4.00	3.76	4.85	4.85	4.85	4.85	5.65	2.78	2.86	2.86	2.86	2.86	5.34	3.74	4.07	4.07	4.07	4.07	6.61	8.0
8.5	1.35	1.75	1.75	1.75	1.75	2.28	1.69	2.18	2.18	2.18	2.18	2.70	2.22	2.82	2.82	2.82	2.82	3.34	3.06	4.30	4.30	4.30	4.30	4.71	2.38	2.58	2.58	2.58	2.58	4.45	3.19	3.66	3.66	3.66	3.66	5.51	8.5
9.0	1.13	1.53	1.58	1.58	1.58	1.92	1.42	1.92	1.95	1.95	1.95	2.27	1.82	2.52	2.52	2.52	2.52	2.81	2.49	3.83	3.83	3.83	3.83	3.97	2.04	2.34	2.34	2.34	2.34	3.75	2.73	3.30	3.30	3.30	3.30	4.65	9.0
9.5	0.95	1.34	1.41	1.43	1.43	1.64	1.19	1.69	1.75	1.75	1.75	1.93	1.51	2.26	2.26	2.26	2.26	2.39	2.04	3.44	3.44	3.44	3.44	3.37	1.75	2.14	2.14	2.14	2.14	3.19	2.33	2.96	2.96	2.96	2.96	3.95	9.5
10.0	0.80	1.19	1.25	1.29	1.29	1.40	1.02	1.49	1.57	1.58	1.58	1.66	1.26	2.00	2.04	2.04	2.04	2.05	1.69	3.01	3.10	3.10	3.10	2.89	1.50	1.95	1.95	1.95	1.95	2.73	2.00	2.67	2.67	2.67	2.67	3.39	10.0
10.5	0.69	1.05	1.11	1.17	1.17	1.21	0.86	1.31	1.40	1.43	1.43	1.43	1.06	1.77	1.85	1.85	1.85	1.77	1.42	2.64	2.82	2.82	2.82	2.50	1.28	1.75	1.79	1.79	1.79	2.36	1.72	2.38	2.42	2.42	2.42	2.93	10.5
11.0	0.59	0.93	0.99	1.06	1.06	1.05	0.73	1.17	1.25	1.30	1.30	1.25	0.90	1.57	1.68	1.68	1.68	1.54	1.20	2.31	2.55	2.57	2.57	2.17	1.10	1.57	1.65	1.65	1.65	2.05	1.48	2.13	2.21	2.21	2.21	2.54	11.0
11.5	0.51	0.82	0.89	0.97	0.97	0.92	0.62	1.03	1.12	1.19	1.19	1.09	0.76	1.40	1.51	1.54	1.54	1.35	1.02	2.03	2.26	2.35	2.35	1.90	0.96	1.41	1.49	1.53	1.53	1.80	1.29	1.91	2.02	2.02	2.02	2.23	11.5
12.0	0.45	0.73	0.80	0.89	0.89	0.81	0.53	0.92	1.00	1.10	1.10	0.96	0.65	1.25	1.35	1.42	1.42	1.19	0.87	1.78	2.02	2.16	2.16	1.67	0.83	1.27	1.34	1.41	1.41	1.58	1.11	1.72	1.83	1.86	1.86	1.96	12.0
12.5	0.39	0.65	0.71	0.82	0.82	0.72	0.46	0.82	0.90	1.01	1.01	0.85	0.56	1.10	1.22	1.30	1.30	1.05	0.76	1.56	1.79	1.99	1.99	1.48	0.73	1.14	1.22	1.31	1.31	1.40	0.96	1.54	1.65	1.71	1.71	1.73	12.5
13.0	0.34	0.58	0.64	0.76	0.76	0.64	0.40	0.73	0.81	0.93	0.93	0.75	0.48	0.97	1.09	1.21	1.21	0.93	0.66	1.36	1.59	1.84	1.84	1.32	0.65	1.03	1.11	1.22	1.22	1.24	0.84	1.39	1.50	1.58	1.58	1.54	13.0
13.5	0.29	0.51	0.58	0.70	0.71	0.57	0.35	0.65	0.73	0.87	0.87	0.67	0.42	0.85	0.99	1.12	1.12	0.83	0.57	1.19	1.42	1.70	1.70	1.18	0.57	0.94	1.01	1.13	1.13	1.11	0.73	1.26	1.36	1.47	1.47	1.38	13.5
14.0			0.52	0.64	0.66	0.51	0.31	0.58	0.66	0.80	0.81	0.60	0.37	0.75	0.88	1.04	1.04	0.75	0.51	1.04	1.26	1.58	1.58	1.05	0.51	0.84	0.92	1.05	1.05	1.00	0.64	1.14	1.24	1.36	1.36	1.23	14.0
14.5			0.47	0.59	0.61	0.46	0.27	0.51	0.59	0.74	0.75	0.54	0.32	0.66	0.79	0.97	0.97	0.67	0.45	0.91	1.12	1.48	1.48	0.95	0.46	0.76	0.84	0.97	0.98	0.90	0.57	1.03	1.13	1.27	1.27	1.11	14.5
15.0				0.54	0.57	0.42			0.53	0.68	0.70	0.49	0.29	0.58	0.70	0.91	0.91	0.61	0.40	0.80	0.99	1.38	1.38	0.86	0.41	0.69	0.77	0.89	0.92	0.81	0.50	0.93	1.03	1.19	1.19	1.00	15.0
15.5				0.50	0.54	0.38			0.48	0.63	0.66	0.45	0.25	0.51	0.62	0.85	0.85	0.55	0.35	0.71	0.87	1.28	1.29	0.78	0.36	0.62	0.70	0.83	0.86	0.73	0.45	0.84	0.94	1.11	1.11	0.91	15.5
16.0					0.50	0.34				0.58	0.62	0.40			0.55	0.78	0.80	0.50	0.32	0.63	0.77	1.18	1.21	0.71	0.32	0.56	0.64	0.77	0.81	0.67	0.40	0.76	0.86	1.04	1.04	0.83	16.0
16.5					0.47	0.31				0.54	0.58	0.37			0.49	0.72	0.75	0.46	0.28	0.56	0.69	1.08	1.14	0.64	0.29	0.51	0.58	0.72	0.76	0.61	0.36	0.69	0.79	0.97	0.98	0.75	16.5
17.0										0.50	0.55	0.34				0.67	0.71	0.42			0.61	1.00	1.07	0.59			0.53	0.67	0.71	0.56	0.32	0.62	0.72	0.91	0.92	0.69	17.0
17.5											0.52	0.31				0.62	0.67	0.38			0.55	0.91	1.01	0.54			0.49	0.62	0.67	0.51	0.29	0.57	0.66	0.84	0.87	0.63	17.5
18.0											0.49	0.28				0.58	0.63	0.35				0.84	0.96	0.50				0.58	0.64	0.47	0.26	0.51	0.60	0.79	0.82	0.58	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 300/24						DHS 300/30						DHS 350/18						DHS 350/24						DHS 350/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0													15.81	15.81	15.80	15.80	15.81	180.70													3.0
3.5													13.19	13.19	13.19	13.19	13.19	113.80													3.5
4.0													11.21	11.21	11.20	11.21	11.21	76.24	23.18	23.18	23.17	23.18	23.18	109.30							4.0
4.5	19.53	19.53	19.53	19.53	19.53	53.29							9.66	9.66	9.66	9.66	9.66	53.55	19.66	19.66	19.66	19.66	19.66	76.80							4.5
5.0	16.40	16.40	16.40	16.40	16.40	38.85							8.41	8.41	8.41	8.41	8.41	39.04	16.86	16.86	16.86	16.86	16.86	55.99							5.0
5.5	13.56	13.56	13.56	13.56	13.56	29.19							7.39	7.39	7.39	7.39	7.39	29.33	14.61	14.61	14.61	14.61	14.61	42.06							5.5
6.0	11.39	11.39	11.39	11.39	11.39	22.48	15.30	15.30	15.30	15.30	15.30	28.31	6.55	6.55	6.55	6.55	6.55	22.59	12.77	12.77	12.77	12.77	12.77	32.40							6.0
6.5	9.71	9.71	9.71	9.71	9.71	17.68	13.04	13.04	13.04	13.04	13.04	22.27	5.83	5.83	5.83	5.83	5.83	17.77	11.24	11.24	11.24	11.24	11.24	25.48							6.5
7.0	8.37	8.37	8.37	8.37	8.37	14.16	11.05	11.24	11.24	11.24	11.24	17.83	5.23	5.23	5.23	5.23	5.23	14.23	9.96	9.96	9.96	9.96	9.96	20.40							7.0
7.5	7.16	7.29	7.29	7.29	7.29	11.51	9.16	9.79	9.79	9.79	9.79	14.49	4.71	4.71	4.71	4.71	4.71	11.57	8.70	8.84	8.84	8.84	8.83	16.59	11.55	11.91	11.91	11.91	11.91	21.36	7.5
8.0	6.00	6.41	6.41	6.41	6.41	9.49	7.62	8.61	8.61	8.61	8.61	11.94	4.26	4.26	4.26	4.26	4.26	9.53	7.38	7.77	7.77	7.77	7.77	13.67	9.61	10.46	10.46	10.46	10.46	17.60	8.0
8.5	5.05	5.68	5.68	5.68	5.68	7.91	6.36	7.63	7.62	7.63	7.63	9.96	3.79	3.87	3.87	3.87	3.88	7.95	6.29	6.88	6.88	6.88	6.88	11.39	8.02	9.27	9.27	9.27	9.27	14.67	8.5
9.0	4.25	5.06	5.06	5.06	5.06	6.66	5.30	6.80	6.80	6.80	6.80	8.39	3.25	3.54	3.53	3.54	3.54	6.69	5.37	6.14	6.14	6.14	6.14	9.60	6.69	8.27	8.27	8.27	8.27	12.36	9.0
9.5	3.58	4.54	4.54	4.54	4.54	5.66	4.42	6.10	6.10	6.10	6.10	7.13	2.80	3.24	3.24	3.24	3.24	5.69	4.52	5.51	5.51	5.51	5.51	8.16	5.57	7.42	7.42	7.42	7.42	10.51	9.5
10.0	3.00	4.10	4.10	4.10	4.10	4.86	3.68	5.51	5.51	5.51	5.51	6.12	2.40	2.97	2.97	2.97	2.97	4.88	3.79	4.97	4.97	4.97	4.97	7.00	4.64	6.70	6.70	6.70	6.70	9.01	10.0
10.5	2.53	3.72	3.72	3.72	3.72	4.20	3.08	5.00	5.00	5.00	5.00	5.28	2.05	2.74	2.74	2.74	2.74	4.22	3.19	4.51	4.51	4.51	4.51	6.05	3.87	6.08	6.08	6.08	6.08	7.78	10.5
11.0	2.13	3.39	3.39	3.39	3.39	3.65	2.59	4.53	4.55	4.55	4.55	4.59	1.77	2.52	2.53	2.53	2.53	3.67	2.68	4.11	4.11	4.11	4.11	5.26	3.25	5.54	5.54	5.54	5.54	6.77	11.0
11.5	1.80	3.10	3.10	3.10	3.10	3.19	2.20	4.03	4.17	4.17	4.17	4.02	1.53	2.26	2.34	2.34	2.35	3.21	2.27	3.76	3.76	3.76	3.76	4.60	2.76	5.06	5.06	5.06	5.06	5.92	11.5
12.0	1.54	2.79	2.85	2.85	2.85	2.81	1.89	3.59	3.83	3.83	3.83	3.54	1.34	2.03	2.16	2.18	2.18	2.82	1.94	3.40	3.45	3.45	3.45	4.05	2.36	4.53	4.65	4.65	4.65	5.21	12.0
12.5	1.33	2.50	2.62	2.63	2.63	2.49	1.63	3.19	3.52	3.53	3.53	3.13	1.18	1.83	1.96	2.03	2.03	2.50	1.66	3.06	3.18	3.18	3.18	3.58	2.03	4.03	4.29	4.29	4.29	4.61	12.5
13.0	1.15	2.23	2.43	2.43	2.43	2.21	1.41	2.85	3.19	3.26	3.26	2.78	1.04	1.65	1.78	1.89	1.89	2.22	1.44	2.76	2.94	2.94	2.94	3.19	1.76	3.59	3.96	3.96	3.96	4.10	13.0
13.5	1.00	2.00	2.23	2.25	2.25	1.97	1.23	2.54	2.88	3.02	3.02	2.49	0.92	1.50	1.62	1.77	1.77	1.98	1.25	2.50	2.71	2.73	2.73	2.84	1.53	3.20	3.63	3.68	3.68	3.66	13.5
14.0	0.87	1.79	2.02	2.09	2.09	1.77	1.08	2.26	2.59	2.81	2.81	2.23	0.81	1.35	1.48	1.65	1.65	1.78	1.09	2.27	2.47	2.54	2.54	2.55	1.34	2.86	3.28	3.42	3.42	3.28	14.0
14.5	0.77	1.60	1.83	1.95	1.95	1.59	0.95	2.01	2.34	2.62	2.62	2.01	0.71	1.23	1.35	1.54	1.54	1.60	0.96	2.03	2.26	2.36	2.36	2.30	1.18	2.54	2.96	3.19	3.19	2.96	14.5
15.0	0.68	1.43	1.66	1.82	1.82	1.44	0.85	1.79	2.11	2.45	2.45	1.81	0.63	1.11	1.23	1.43	1.43	1.45	0.85	1.82	2.06	2.21	2.21	2.07	1.05	2.26	2.67	2.98	2.98	2.67	15.0
15.5	0.60	1.28	1.50	1.71	1.71	1.30	0.75	1.59	1.91	2.29	2.29	1.64	0.56	1.01	1.13	1.33	1.34	1.31	0.75	1.62	1.88	2.07	2.07	1.88	0.93	2.01	2.42	2.79	2.79	2.42	15.5
16.0	0.54	1.14	1.36	1.60	1.60	1.19	0.67	1.42	1.72	2.15	2.15	1.49	0.50	0.91	1.03	1.24	1.26	1.19	0.67	1.45	1.73	1.94	1.94	1.71	0.83	1.79	2.18	2.62	2.62	2.20	16.0
16.5	0.48	1.02	1.23	1.51	1.51	1.08	0.60	1.26	1.56	2.02	2.02	1.36	0.45	0.82	0.94	1.15	1.19	1.09	0.60	1.29	1.57	1.83	1.83	1.56	0.74	1.59	1.97	2.46	2.46	2.01	16.5
17.0	0.43	0.91	1.12	1.42	1.42	0.99	0.54	1.13	1.40	1.91	1.91	1.25	0.40	0.75	0.87	1.07	1.12	0.99	0.54	1.15	1.42	1.72	1.72	1.42	0.67	1.42	1.78	2.32	2.32	1.83	17.0
17.5	0.39	0.81	1.01	1.34	1.34	0.91	0.49	1.01	1.26	1.80	1.80	1.14	0.36	0.68	0.79	1.00	1.05	0.91	0.48	1.03	1.28	1.62	1.62	1.31	0.60	1.27	1.60	2.19	2.19	1.68	17.5
18.0	0.35	0.73	0.91	1.27	1.27	0.83	0.45	0.91	1.14	1.68	1.70	1.05	0.32	0.62	0.72	0.93	1.00	0.84	0.44	0.92	1.16	1.53	1.53	1.20	0.55	1.14	1.44	2.07	2.07	1.55	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **END SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 400/20						DHS 400/24						DHS 400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	18.01	18.01	18.00	18.00	18.01	281.40	29.80	29.80	29.79	29.79	29.80	356.40							3.0
3.5	15.15	15.15	15.15	15.15	15.15	177.20	24.89	24.89	24.89	24.89	24.89	224.50							3.5
4.0	12.99	12.99	12.98	12.99	12.99	118.70	21.18	21.18	21.17	21.17	21.18	150.40							4.0
4.5	11.29	11.29	11.29	11.29	11.29	83.39	18.26	18.26	18.26	18.26	18.26	105.60							4.5
5.0	9.92	9.92	9.93	9.93	9.92	60.79	15.92	15.92	15.92	15.92	15.92	76.99							5.0
5.5	8.80	8.80	8.80	8.80	8.80	45.67	14.01	14.01	14.00	14.01	14.01	57.84							5.5
6.0	7.86	7.86	7.86	7.86	7.86	35.18	12.42	12.42	12.42	12.42	12.42	44.55							6.0
6.5	7.06	7.06	7.06	7.06	7.06	27.67	11.08	11.08	11.08	11.07	11.08	35.04							6.5
7.0	6.38	6.38	6.38	6.38	6.38	22.15	9.94	9.94	9.94	9.94	9.94	28.06							7.0
7.5	5.79	5.79	5.79	5.79	5.79	18.01	8.96	8.96	8.96	8.96	8.96	22.81							7.5
8.0	5.28	5.28	5.28	5.28	5.28	14.84	8.11	8.11	8.12	8.11	8.11	18.80							8.0
8.5	4.83	4.83	4.83	4.83	4.83	12.37	7.28	7.38	7.38	7.38	7.38	15.67	9.82	10.87	10.87	10.87	10.87	20.23	8.5
9.0	4.43	4.43	4.43	4.43	4.43	10.42	6.22	6.74	6.74	6.74	6.74	13.20	8.19	9.70	9.70	9.70	9.70	17.04	9.0
9.5	3.82	4.08	4.08	4.08	4.08	8.86	5.32	6.17	6.17	6.17	6.17	11.22	6.82	8.70	8.70	8.70	8.70	14.49	9.5
10.0	3.28	3.77	3.77	3.77	3.77	7.60	4.55	5.67	5.67	5.67	5.67	9.62	5.67	7.85	7.85	7.85	7.86	12.42	10.0
10.5	2.82	3.49	3.49	3.49	3.49	6.56	3.90	5.23	5.23	5.23	5.23	8.31	4.72	7.12	7.12	7.12	7.12	10.73	10.5
11.0	2.43	3.24	3.24	3.24	3.24	5.71	3.27	4.80	4.80	4.80	4.80	7.23	3.96	6.49	6.49	6.49	6.49	9.34	11.0
11.5	2.11	3.02	3.01	3.01	3.02	5.00	2.77	4.35	4.39	4.39	4.39	6.33	3.36	5.94	5.94	5.94	5.94	8.17	11.5
12.0	1.84	2.81	2.81	2.81	2.81	4.40	2.36	3.92	4.03	4.03	4.03	5.57	2.87	5.45	5.45	5.45	5.45	7.19	12.0
12.5	1.62	2.54	2.63	2.63	2.63	3.89	2.03	3.53	3.72	3.72	3.72	4.93	2.46	4.94	5.03	5.03	5.03	6.36	12.5
13.0	1.43	2.29	2.46	2.46	2.46	3.46	1.75	3.19	3.43	3.44	3.44	4.38	2.13	4.41	4.65	4.65	4.65	5.66	13.0
13.5	1.27	2.07	2.24	2.31	2.31	3.09	1.52	2.89	3.13	3.19	3.19	3.91	1.86	3.93	4.31	4.31	4.31	5.05	13.5
14.0	1.11	1.87	2.05	2.17	2.17	2.77	1.33	2.62	2.85	2.96	2.96	3.51	1.62	3.50	4.01	4.01	4.01	4.53	14.0
14.5	0.97	1.69	1.87	2.04	2.04	2.49	1.17	2.37	2.61	2.76	2.76	3.16	1.43	3.12	3.64	3.74	3.74	4.08	14.5
15.0	0.86	1.53	1.70	1.93	1.93	2.25	1.03	2.14	2.39	2.58	2.58	2.85	1.26	2.78	3.29	3.49	3.49	3.68	15.0
15.5	0.76	1.38	1.56	1.82	1.82	2.04	0.91	1.94	2.19	2.42	2.42	2.58	1.12	2.47	2.97	3.27	3.27	3.34	15.5
16.0	0.67	1.25	1.42	1.71	1.71	1.86	0.81	1.75	2.00	2.27	2.27	2.35	1.00	2.19	2.68	3.07	3.07	3.03	16.0
16.5	0.60	1.14	1.30	1.60	1.60	1.69	0.72	1.59	1.83	2.13	2.13	2.14	0.89	1.95	2.42	2.89	2.89	2.77	16.5
17.0	0.54	1.03	1.19	1.49	1.51	1.55	0.65	1.41	1.67	2.01	2.01	1.96	0.80	1.73	2.18	2.72	2.72	2.53	17.0
17.5	0.48	0.94	1.09	1.39	1.43	1.42	0.58	1.26	1.53	1.90	1.90	1.80	0.72	1.55	1.97	2.57	2.57	2.32	17.5
18.0	0.43	0.86	1.00	1.30	1.35	1.30	0.53	1.13	1.40	1.79	1.79	1.65	0.65	1.39	1.77	2.42	2.42	2.13	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 150/12						DHS 150/15						DHS 150/18						DHS 200/12						DHS 200/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	7.24	7.24	7.24	7.24	7.24	9.36	9.86	9.86	9.86	9.86	9.86	12.01	12.59	12.59	12.59	12.59	12.59	14.38	7.68	7.68	7.68	7.68	7.68	19.65	12.68	12.68	12.68	12.68	12.68	25.50	3.0
3.5	5.32	5.32	5.32	5.32	5.32	5.89	7.24	7.24	7.24	7.24	7.24	7.57	9.25	9.25	9.25	9.25	9.25	9.06	6.20	6.20	6.20	6.19	6.20	12.38	10.06	10.05	10.06	10.04	10.05	16.06	3.5
4.0	4.07	4.07	4.07	4.07	4.07	3.95	5.54	5.54	5.54	5.54	5.54	5.07	6.73	7.08	7.08	7.08	7.08	6.07	5.10	5.10	5.09	5.10	5.10	8.29	8.15	8.15	8.13	8.14	8.15	10.76	4.0
4.5	3.12	3.22	3.22	3.22	3.22	2.77	4.11	4.38	4.38	4.38	4.38	3.56	4.99	5.60	5.60	5.60	5.60	4.26	4.27	4.27	4.27	4.27	4.27	5.82	6.55	6.55	6.55	6.55	6.55	7.56	4.5
5.0	2.34	2.61	2.61	2.61	2.61	2.02	3.08	3.55	3.55	3.55	3.55	2.60	3.78	4.53	4.53	4.53	4.53	3.11	3.61	3.61	3.61	3.61	3.61	4.25	5.21	5.30	5.30	5.30	5.30	5.51	5.0
5.5	1.77	2.15	2.15	2.15	2.15	1.52	2.32	2.93	2.93	2.93	2.93	1.95	2.82	3.75	3.75	3.75	3.75	2.33	2.84	3.10	3.09	3.10	3.10	3.19	4.09	4.38	4.38	4.38	4.38	4.14	5.5
6.0	1.33	1.81	1.81	1.81	1.81	1.17	1.74	2.46	2.46	2.46	2.46	1.50	2.09	3.06	3.15	3.15	3.15	1.80	2.24	2.68	2.68	2.68	2.68	2.46	3.19	3.68	3.68	3.68	3.68	3.19	6.0
6.5	1.00	1.54	1.54	1.54	1.54	0.92	1.31	2.07	2.10	2.10	2.10	1.18	1.56	2.51	2.64	2.68	2.68	1.41	1.78	2.29	2.29	2.29	2.29	1.93	2.48	3.14	3.14	3.14	3.14	2.51	6.5
7.0	0.77	1.29	1.33	1.33	1.33	0.74	0.99	1.70	1.81	1.81	1.81	0.95	1.18	2.07	2.21	2.31	2.31	1.13	1.41	1.94	1.97	1.97	1.97	1.55	1.92	2.71	2.71	2.71	2.71	2.01	7.0
7.5	0.60	1.07	1.15	1.16	1.16	0.60	0.77	1.41	1.53	1.58	1.58	0.77	0.92	1.73	1.85	2.01	2.01	0.92	1.13	1.64	1.72	1.72	1.72	1.26	1.50	2.36	2.36	2.36	2.36	1.63	7.5
8.0	0.48	0.88	0.97	1.02	1.02	0.49	0.60	1.16	1.28	1.39	1.39	0.63	0.73	1.42	1.56	1.77	1.77	0.76	0.91	1.40	1.48	1.51	1.51	1.04	1.19	2.01	2.07	2.07	2.07	1.35	8.0
8.5	0.38	0.72	0.82	0.90	0.90	0.41	0.48	0.94	1.08	1.23	1.23	0.53	0.58	1.14	1.33	1.57	1.57	0.63	0.73	1.19	1.27	1.34	1.34	0.86	0.96	1.72	1.83	1.84	1.84	1.12	8.5
9.0	0.31	0.58	0.69	0.80	0.80	0.35	0.39	0.77	0.91	1.10	1.10	0.45	0.48	0.92	1.11	1.39	1.40	0.53	0.59	1.02	1.10	1.19	1.19	0.73	0.78	1.47	1.59	1.64	1.64	0.94	9.0
9.5	0.25	0.48	0.57	0.72	0.72	0.29	0.32	0.62	0.76	0.98	0.98	0.38	0.39	0.75	0.91	1.22	1.26	0.45	0.49	0.88	0.95	1.07	1.07	0.62	0.63	1.22	1.38	1.47	1.47	0.80	9.5
10.0			0.47	0.65	0.65	0.25	0.27	0.51	0.63	0.89	0.89	0.32	0.33	0.61	0.75	1.08	1.13	0.39	0.41	0.74	0.83	0.97	0.97	0.53	0.52	1.02	1.20	1.33	1.33	0.69	10.0
10.5				0.59	0.59	0.22			0.52	0.78	0.80	0.28	0.28	0.51	0.62	0.95	1.03	0.34	0.34	0.63	0.72	0.88	0.88	0.46	0.43	0.85	1.02	1.20	1.20	0.59	10.5
11.0				0.52	0.54	0.19				0.69	0.73	0.24			0.52	0.84	0.94	0.29	0.29	0.54	0.63	0.79	0.80	0.40	0.36	0.72	0.87	1.10	1.10	0.52	11.0
11.5				0.46	0.49	0.17				0.61	0.67	0.21				0.75	0.86	0.26	0.25	0.46	0.54	0.71	0.73	0.35	0.31	0.61	0.73	1.00	1.00	0.45	11.5
12.0					0.45	0.15				0.54	0.62	0.19				0.67	0.79	0.22			0.47	0.64	0.67	0.31	0.26	0.52	0.63	0.92	0.92	0.40	12.0
12.5										0.48	0.57	0.17				0.59	0.73	0.20				0.58	0.62	0.27			0.54	0.83	0.85	0.35	12.5
13.0											0.52	0.15				0.52	0.67	0.18				0.52	0.57	0.24			0.47	0.75	0.78	0.31	13.0
13.5											0.49	0.13					0.62	0.16				0.47	0.53	0.22				0.68	0.73	0.28	13.5
14.0																	0.58	0.14					0.49	0.19				0.62	0.68	0.25	14.0
14.5																							0.46	0.17				0.56	0.63	0.23	14.5
15.0																												0.50	0.59	0.20	15.0
15.5																													0.55	0.18	15.5
16.0																													0.52	0.17	16.0
16.5																													0.49	0.15	16.5
17.0																															17.0
17.5																															17.5

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 200/18						DHS 250/13						DHS 250/15						DHS 250/18						DHS 250/24						DHS 300/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0							9.31	9.31	9.31	9.31	9.31	38.99	13.03	13.03	13.02	13.02	13.03	46.14													12.23	12.23	12.23	12.23	12.23	76.02	3.0
3.5	13.91	13.91	13.91	13.91	13.91	19.82	7.68	7.67	7.68	7.66	7.67	24.55	10.64	10.64	10.64	10.62	10.64	29.06													10.20	10.19	10.20	10.17	10.19	47.87	3.5
4.0	10.65	10.65	10.65	10.65	10.65	13.28	6.44	6.44	6.42	6.44	6.44	16.45	8.86	8.86	8.83	8.85	8.86	19.47	13.06	13.06	13.03	13.05	13.06	24.05							8.65	8.66	8.62	8.65	8.66	32.07	4.0
4.5	8.42	8.42	8.42	8.42	8.42	9.33	5.48	5.48	5.48	5.48	5.48	11.55	7.48	7.48	7.48	7.48	7.48	13.67	10.92	10.92	10.92	10.92	10.92	16.90							7.45	7.45	7.45	7.45	7.45	22.52	4.5
5.0	6.64	6.82	6.82	6.82	6.82	6.80	4.72	4.71	4.72	4.72	4.71	8.42	6.39	6.39	6.39	6.39	6.39	9.97	9.25	9.25	9.25	9.25	9.25	12.32							6.48	6.47	6.48	6.48	6.47	16.42	5.0
5.5	5.12	5.63	5.63	5.63	5.63	5.11	4.10	4.10	4.09	4.10	4.10	6.33	5.52	5.52	5.51	5.52	5.52	7.49	7.75	7.87	7.87	7.87	7.87	9.25							5.69	5.69	5.67	5.69	5.69	12.34	5.5
6.0	3.97	4.73	4.73	4.73	4.73	3.93	3.59	3.59	3.59	3.59	3.59	4.87	4.62	4.81	4.81	4.81	4.81	5.77	6.22	6.61	6.61	6.61	6.61	7.13							5.03	5.03	5.03	5.03	5.03	9.50	6.0
6.5	3.08	4.03	4.03	4.03	4.03	3.09	2.97	3.17	3.17	3.17	3.17	3.83	3.73	4.22	4.22	4.22	4.22	4.54	5.03	5.63	5.63	5.63	5.63	5.61	7.18						4.48	4.48	4.48	4.48	4.48	7.47	6.5
7.0	2.37	3.48	3.48	3.48	3.48	2.48	2.41	2.82	2.81	2.81	2.82	3.07	3.03	3.73	3.73	3.73	3.73	3.63	4.04	4.86	4.86	4.86	4.86	4.49	5.65	7.39	7.39	7.39	7.39	6.34	4.01	4.01	4.01	4.01	4.01	5.98	7.0
7.5	1.83	3.03	3.03	3.03	3.03	2.01	1.96	2.52	2.52	2.51	2.52	2.50	2.46	3.28	3.28	3.28	3.28	2.95	3.21	4.23	4.23	4.23	4.23	3.65	4.42	6.44	6.44	6.44	6.44	5.15	3.54	3.61	3.61	3.61	3.61	4.87	7.5
8.0	1.44	2.56	2.66	2.66	2.66	1.66	1.59	2.25	2.26	2.26	2.26	2.06	2.00	2.82	2.88	2.88	2.88	2.43	2.55	3.72	3.72	3.72	3.72	3.01	3.47	5.66	5.66	5.66	5.66	4.25	2.95	3.27	3.27	3.26	3.26	4.01	8.0
8.5	1.14	2.17	2.35	2.36	2.36	1.38	1.30	1.94	2.04	2.04	2.04	1.71	1.65	2.43	2.55	2.55	2.55	2.03	2.05	3.28	3.29	3.29	3.29	2.51	2.76	4.94	5.02	5.02	5.02	3.54	2.46	2.97	2.96	2.96	2.97	3.34	8.5
9.0	0.92	1.83	2.02	2.10	2.10	1.17	1.08	1.68	1.78	1.85	1.85	1.44	1.35	2.11	2.23	2.28	2.28	1.71	1.67	2.84	2.94	2.94	2.94	2.11	2.23	4.24	4.47	4.47	4.47	2.98	2.05	2.70	2.70	2.70	2.70	2.82	9.0
9.5	0.76	1.52	1.74	1.89	1.89	0.99	0.91	1.46	1.55	1.67	1.67	1.23	1.11	1.83	1.95	2.04	2.04	1.45	1.37	2.47	2.63	2.64	2.64	1.80	1.82	3.64	3.98	4.01	4.01	2.54	1.71	2.47	2.47	2.47	2.47	2.39	9.5
10.0	0.62	1.27	1.50	1.70	1.70	0.85	0.77	1.27	1.37	1.50	1.50	1.05	0.92	1.60	1.72	1.84	1.84	1.25	1.12	2.16	2.32	2.38	2.38	1.54	1.51	3.09	3.47	3.62	3.62	2.17	1.45	2.18	2.27	2.27	2.27	2.05	10.0
10.5	0.52	1.05	1.27	1.55	1.55	0.73	0.65	1.11	1.20	1.36	1.36	0.91	0.77	1.39	1.51	1.67	1.67	1.08	0.94	1.86	2.04	2.16	2.16	1.33	1.26	2.61	3.03	3.29	3.29	1.88	1.24	1.93	2.04	2.09	2.09	1.77	10.5
11.0	0.44	0.88	1.08	1.41	1.41	0.64	0.55	0.96	1.06	1.24	1.24	0.79	0.65	1.21	1.34	1.52	1.52	0.94	0.79	1.58	1.81	1.97	1.97	1.16	1.06	2.20	2.63	2.99	2.99	1.63	1.07	1.72	1.82	1.93	1.93	1.54	11.0
11.5	0.37	0.74	0.91	1.29	1.29	0.56	0.47	0.83	0.94	1.13	1.14	0.69	0.56	1.05	1.18	1.39	1.39	0.82	0.66	1.34	1.60	1.80	1.80	1.01	0.90	1.85	2.27	2.74	2.74	1.43	0.92	1.53	1.63	1.79	1.79	1.35	11.5
12.0	0.32	0.63	0.77	1.18	1.18	0.49	0.40	0.72	0.83	1.02	1.04	0.61	0.47	0.91	1.05	1.28	1.28	0.72	0.57	1.15	1.39	1.65	1.65	0.89	0.77	1.57	1.95	2.52	2.52	1.26	0.81	1.36	1.47	1.66	1.66	1.19	12.0
12.5	0.28	0.53	0.66	1.06	1.09	0.44	0.35	0.63	0.73	0.93	0.96	0.54	0.41	0.79	0.92	1.17	1.18	0.64	0.49	0.98	1.20	1.52	1.52	0.79	0.66	1.34	1.67	2.32	2.32	1.11	0.70	1.21	1.32	1.52	1.54	1.05	12.5
13.0			0.56	0.95	1.01	0.39	0.30	0.55	0.64	0.84	0.89	0.48	0.35	0.68	0.81	1.06	1.09	0.57	0.42	0.85	1.04	1.41	1.41	0.70	0.58	1.15	1.43	2.14	2.14	0.99	0.61	1.06	1.19	1.39	1.42	0.93	13.0
13.5			0.49	0.86	0.94	0.35	0.26	0.49	0.56	0.77	0.82	0.43	0.30	0.60	0.72	0.97	1.01	0.51	0.36	0.74	0.90	1.30	1.31	0.63	0.50	1.00	1.23	1.97	1.99	0.88	0.53	0.94	1.07	1.28	1.32	0.83	13.5
14.0				0.77	0.87	0.31			0.50	0.70	0.77	0.38	0.26	0.52	0.63	0.88	0.94	0.45	0.32	0.64	0.79	1.19	1.21	0.56	0.44	0.87	1.07	1.78	1.85	0.79	0.47	0.83	0.96	1.17	1.23	0.75	14.0
14.5				0.69	0.81	0.28				0.64	0.71	0.35			0.55	0.81	0.88	0.41	0.28	0.56	0.69	1.09	1.13	0.51	0.39	0.76	0.93	1.62	1.72	0.71	0.41	0.74	0.86	1.08	1.15	0.67	14.5
15.0				0.62	0.76	0.25				0.59	0.67	0.31		0.49	0.74	0.82	0.37	0.25	0.49	0.61	1.00	1.06	0.46	0.35	0.67	0.82	1.47	1.61	0.64	0.36	0.66	0.77	0.99	1.07	0.61	15.0
15.5				0.55	0.71	0.23				0.54	0.63	0.28				0.68	0.77	0.33			0.53	0.91	0.99	0.41	0.31	0.59	0.72	1.34	1.51	0.58	0.32	0.59	0.69	0.92	1.00	0.55	15.5
16.0				0.49	0.67	0.21				0.49	0.59	0.26				0.62	0.72	0.30				0.84	0.93	0.38	0.27	0.52	0.64	1.21	1.42	0.53	0.29	0.53	0.62	0.85	0.94	0.50	16.0
16.5					0.63	0.19					0.55	0.23				0.57	0.68	0.28				0.77	0.87	0.34			0.57	1.08	1.33	0.48			0.56	0.79	0.88	0.46	16.5
17.0					0.59	0.17					0.52	0.21				0.52	0.64	0.25				0.69	0.82	0.31				0.97	1.25	0.44			0.51	0.73	0.83	0.42	17.0
17.5					0.56	0.16					0.49	0.20				0.48	0.60	0.23				0.63	0.78	0.29				0.87	1.18	0.41				0.68	0.79	0.38	17.5
18.0																	0.57	0.21				0.56	0.73	0.26				0.78	1.12	0.37				0.63	0.74	0.35	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 300/18						DHS 300/24						DHS 300/30						DHS 350/18						DHS 350/24						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	18.91	18.91	18.91	18.90	18.91	94.21													16.71	16.71	16.71	16.70	16.71	135.80							3.0
3.5	15.64	15.63	15.64	15.60	15.63	59.33													14.03	14.03	14.03	14.00	14.03	85.49							3.5
4.0	13.16	13.16	13.12	13.15	13.16	39.74													12.01	12.01	11.96	12.00	12.01	57.27	25.33	25.33	25.24	25.31	25.33	82.14	4.0
4.5	11.23	11.23	11.23	11.23	11.23	27.91	22.11	22.11	22.10	22.11	22.11	40.03							10.41	10.42	10.41	10.42	10.41	40.22	21.66	21.67	21.66	21.67	21.67	57.69	4.5
5.0	9.69	9.69	9.69	9.69	9.69	20.35	18.80	18.79	18.80	18.80	18.79	29.18							9.13	9.13	9.13	9.13	9.13	29.32	18.74	18.73	18.74	18.74	18.73	42.05	5.0
5.5	8.44	8.45	8.43	8.45	8.45	15.29	15.83	15.83	15.83	15.83	15.83	21.93							8.08	8.08	8.06	8.08	8.08	22.03	16.36	16.36	16.33	16.36	16.36	31.59	5.5
6.0	7.42	7.42	7.42	7.42	7.42	11.78	13.30	13.30	13.30	13.30	13.30	16.89							7.20	7.20	7.20	7.20	7.20	16.97	14.40	14.39	14.40	14.40	14.39	24.34	6.0
6.5	6.56	6.56	6.56	6.56	6.56	9.26	11.24	11.33	11.33	11.33	11.33	13.28	14.40	15.22	15.22	15.22	15.22	16.73	6.46	6.46	6.46	6.46	6.46	13.35	12.76	12.76	12.76	12.76	12.76	19.14	6.5
7.0	5.70	5.84	5.84	5.84	5.84	7.42	9.16	9.77	9.77	9.77	9.77	10.63	11.65	13.12	13.13	13.13	13.12	13.39	5.82	5.82	5.81	5.82	5.82	10.69	11.28	11.37	11.36	11.36	11.37	15.33	7.0
7.5	4.74	5.23	5.23	5.23	5.23	6.03	7.49	8.51	8.51	8.51	8.51	8.65	9.44	11.43	11.43	11.43	11.43	10.89	5.28	5.28	5.28	5.27	5.28	8.69	9.39	10.20	10.20	10.19	10.20	12.46	7.5
8.0	3.95	4.70	4.70	4.70	4.70	4.97	6.13	7.48	7.48	7.48	7.48	7.13	7.64	10.05	10.05	10.05	10.05	8.97	4.72	4.80	4.80	4.80	4.80	7.16	7.78	9.07	9.07	9.07	9.07	10.27	8.0
8.5	3.29	4.25	4.25	4.25	4.25	4.14	5.00	6.63	6.63	6.63	6.63	5.94	6.16	8.90	8.90	8.90	8.90	7.48	3.96	4.38	4.38	4.38	4.39	5.97	6.35	8.03	8.03	8.03	8.03	8.56	8.5
9.0	2.75	3.82	3.85	3.85	3.85	3.49	4.08	5.91	5.91	5.91	5.91	5.00	4.97	7.94	7.94	7.94	7.94	6.30	3.30	4.02	4.02	4.02	4.02	5.03	5.17	7.16	7.16	7.16	7.16	7.21	9.0
9.5	2.31	3.35	3.46	3.46	3.46	2.97	3.32	5.31	5.31	5.31	5.31	4.26	4.05	7.13	7.13	7.13	7.13	5.36	2.77	3.69	3.70	3.70	3.69	4.28	4.21	6.43	6.43	6.43	6.43	6.13	9.5
10.0	1.95	2.96	3.11	3.12	3.12	2.54	2.73	4.79	4.79	4.79	4.79	3.65	3.34	6.26	6.43	6.43	6.43	4.59	2.34	3.41	3.41	3.41	3.41	3.67	3.46	5.80	5.80	5.80	5.80	5.26	10.0
10.5	1.64	2.61	2.77	2.83	2.83	2.20	2.27	4.26	4.34	4.34	4.34	3.15	2.78	5.46	5.83	5.83	5.83	3.97	2.00	3.10	3.15	3.15	3.15	3.17	2.87	5.19	5.26	5.26	5.26	4.54	10.5
11.0	1.38	2.31	2.47	2.58	2.58	1.91	1.91	3.74	3.96	3.96	3.96	2.74	2.34	4.78	5.26	5.32	5.32	3.45	1.72	2.75	2.92	2.92	2.92	2.75	2.41	4.60	4.80	4.80	4.80	3.95	11.0
11.5	1.18	2.05	2.21	2.36	2.36	1.67	1.61	3.29	3.62	3.62	3.62	2.40	1.98	4.14	4.66	4.86	4.86	3.02	1.50	2.45	2.62	2.71	2.72	2.41	2.03	4.09	4.39	4.39	4.39	3.46	11.5
12.0	1.01	1.83	1.98	2.17	2.17	1.47	1.37	2.86	3.23	3.33	3.33	2.11	1.69	3.57	4.14	4.47	4.47	2.66	1.28	2.18	2.35	2.53	2.53	2.12	1.73	3.64	3.94	4.03	4.03	3.04	12.0
12.5	0.87	1.62	1.78	2.00	2.00	1.30	1.18	2.48	2.88	3.06	3.06	1.87	1.46	3.08	3.67	4.12	4.12	2.35	1.10	1.95	2.12	2.36	2.36	1.88	1.48	3.16	3.54	3.71	3.71	2.69	12.5
13.0	0.76	1.43	1.60	1.85	1.85	1.16	1.02	2.15	2.56	2.83	2.83	1.66	1.26	2.65	3.23	3.81	3.81	2.09	0.96	1.73	1.91	2.21	2.21	1.67	1.28	2.74	3.19	3.43	3.43	2.39	13.0
13.5	0.66	1.27	1.44	1.71	1.71	1.03	0.88	1.86	2.27	2.63	2.63	1.48	1.10	2.29	2.83	3.53	3.53	1.87	0.83	1.52	1.72	2.05	2.07	1.49	1.11	2.37	2.88	3.18	3.18	2.14	13.5
14.0	0.57	1.12	1.30	1.59	1.59	0.93	0.77	1.62	2.00	2.44	2.44	1.33	0.96	1.99	2.48	3.28	3.28	1.67	0.72	1.35	1.55	1.89	1.92	1.34	0.97	2.06	2.55	2.96	2.96	1.92	14.0
14.5	0.50	1.00	1.16	1.47	1.48	0.83	0.68	1.41	1.76	2.28	2.28	1.20	0.85	1.74	2.17	3.06	3.06	1.51	0.63	1.20	1.40	1.74	1.79	1.20	0.85	1.79	2.24	2.76	2.76	1.72	14.5
15.0	0.44	0.88	1.04	1.35	1.39	0.75	0.60	1.24	1.54	2.13	2.13	1.08	0.75	1.52	1.90	2.86	2.86	1.36	0.56	1.07	1.25	1.60	1.67	1.09	0.75	1.57	1.97	2.58	2.58	1.56	15.0
15.5	0.39	0.78	0.93	1.25	1.30	0.68	0.53	1.09	1.36	1.99	1.99	0.98	0.67	1.34	1.67	2.66	2.68	1.23	0.49	0.96	1.12	1.48	1.57	0.98	0.66	1.38	1.73	2.42	2.42	1.41	15.5
16.0	0.35	0.69	0.84	1.15	1.22	0.62	0.47	0.96	1.20	1.87	1.87	0.89	0.59	1.19	1.48	2.44	2.51	1.12	0.44	0.87	1.01	1.37	1.47	0.89	0.59	1.22	1.53	2.27	2.27	1.28	16.0
16.5	0.31	0.62	0.75	1.07	1.15	0.57	0.42	0.85	1.06	1.74	1.76	0.81	0.53	1.06	1.31	2.24	2.36	1.02	0.39	0.79	0.91	1.27	1.38	0.82	0.53	1.08	1.35	2.12	2.13	1.17	16.5
17.0	0.28	0.55	0.67	0.99	1.08	0.52	0.38	0.76	0.94	1.61	1.66	0.74	0.48	0.94	1.17	2.06	2.23	0.93	0.35	0.70	0.83	1.17	1.30	0.75	0.47	0.96	1.20	1.96	2.01	1.07	17.0
17.5			0.60	0.91	1.02	0.47	0.34	0.68	0.84	1.48	1.56	0.68	0.43	0.85	1.04	1.89	2.10	0.86	0.31	0.63	0.75	1.09	1.23	0.68	0.42	0.86	1.07	1.82	1.89	0.98	17.5
18.0			0.54	0.85	0.96	0.44	0.31	0.61	0.76	1.37	1.48	0.63	0.39	0.76	0.94	1.74	1.99	0.79	0.28	0.57	0.68	1.01	1.16	0.63	0.38	0.77	0.96	1.69	1.79	0.90	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

DHS PURLIN SYSTEM LOAD SPAN TABLES - **INTERNAL SPAN LAPPED**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	DHS 350/30						DHS 400/20						DHS 400/24						DHS 400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0							18.90	18.90	18.90	18.90	18.90	211.40	31.47	31.47	31.47	31.46	31.47	267.70							3.0
3.5							15.98	15.97	15.98	15.94	15.97	133.10	26.46	26.44	26.46	26.39	26.45	168.60							3.5
4.0							13.77	13.77	13.71	13.76	13.77	89.19	22.65	22.66	22.56	22.64	22.66	113.00							4.0
4.5							12.03	12.03	12.03	12.03	12.03	62.64	19.67	19.67	19.66	19.67	19.67	79.33							4.5
5.0							10.63	10.62	10.63	10.63	10.62	45.66	17.26	17.25	17.27	17.27	17.25	57.83							5.0
5.5							9.48	9.48	9.46	9.48	9.48	34.31	15.28	15.29	15.26	15.29	15.29	43.45							5.5
6.0							8.52	8.51	8.51	8.52	8.51	26.43	13.64	13.63	13.64	13.64	13.63	33.47							6.0
6.5							7.69	7.69	7.69	7.69	7.69	20.78	12.24	12.24	12.24	12.24	12.24	26.32							6.5
7.0							6.99	6.99	6.97	6.98	6.99	16.64	11.05	11.04	11.03	11.03	11.04	21.08							7.0
7.5							6.37	6.38	6.38	6.37	6.38	13.53	10.02	10.02	10.02	10.01	10.02	17.14							7.5
8.0	9.68	12.22	12.22	12.22	12.22	13.22	5.84	5.84	5.84	5.84	5.84	11.15	9.07	9.12	9.12	9.11	9.12	14.12	11.89						8.0
8.5	7.81	10.82	10.82	10.82	10.82	11.02	5.37	5.37	5.36	5.37	5.37	9.30	7.56	8.34	8.33	8.33	8.34	11.77	9.60						8.5
9.0	6.30	9.65	9.65	9.65	9.65	9.28	4.54	4.95	4.95	4.95	4.95	7.83	6.31	7.64	7.64	7.64	7.65	9.92	7.73	11.32	11.32	11.32	11.32	12.80	9.0
9.5	5.12	8.66	8.66	8.66	8.66	7.89	3.82	4.58	4.58	4.58	4.58	6.66	5.17	7.03	7.03	7.03	7.03	8.43	6.28	10.16	10.16	10.16	10.16	10.89	9.5
10.0	4.22	7.82	7.82	7.82	7.82	6.77	3.23	4.25	4.24	4.25	4.25	5.71	4.25	6.49	6.48	6.49	6.49	7.23	5.16	9.17	9.17	9.17	9.17	9.33	10.0
10.5	3.50	6.91	7.09	7.09	7.09	5.85	2.76	3.95	3.95	3.95	3.95	4.93	3.52	5.98	6.00	6.01	6.00	6.25	4.29	8.32	8.32	8.32	8.32	8.06	10.5
11.0	2.94	6.04	6.46	6.46	6.46	5.08	2.37	3.68	3.68	3.68	3.68	4.29	2.95	5.31	5.57	5.57	5.57	5.43	3.59	7.43	7.58	7.58	7.58	7.01	11.0
11.5	2.49	5.25	5.90	5.91	5.91	4.45	2.07	3.38	3.43	3.43	3.44	3.75	2.49	4.73	5.06	5.13	5.13	4.75	3.04	6.46	6.93	6.93	6.93	6.14	11.5
12.0	2.12	4.54	5.23	5.43	5.43	3.92	1.76	3.01	3.21	3.21	3.21	3.30	2.12	4.23	4.55	4.71	4.71	4.18	2.59	5.59	6.37	6.37	6.37	5.40	12.0
12.5	1.82	3.91	4.65	5.00	5.00	3.47	1.51	2.68	2.93	3.01	3.01	2.92	1.81	3.76	4.10	4.34	4.34	3.70	2.22	4.82	5.72	5.87	5.87	4.78	12.5
13.0	1.57	3.37	4.10	4.63	4.63	3.08	1.30	2.39	2.64	2.83	2.83	2.60	1.56	3.33	3.70	4.01	4.01	3.29	1.91	4.15	5.06	5.43	5.43	4.25	13.0
13.5	1.37	2.91	3.61	4.29	4.29	2.75	1.12	2.11	2.38	2.66	2.66	2.32	1.36	2.93	3.34	3.72	3.72	2.94	1.66	3.58	4.45	5.03	5.03	3.79	13.5
14.0	1.20	2.52	3.16	3.99	3.99	2.47	0.98	1.87	2.15	2.51	2.51	2.08	1.18	2.54	3.01	3.46	3.46	2.64	1.45	3.11	3.90	4.68	4.68	3.40	14.0
14.5	1.05	2.20	2.76	3.72	3.72	2.22	0.86	1.67	1.94	2.37	2.37	1.87	1.04	2.21	2.71	3.23	3.23	2.37	1.27	2.71	3.41	4.36	4.36	3.06	14.5
15.0	0.93	1.93	2.42	3.48	3.48	2.01	0.75	1.49	1.74	2.22	2.24	1.69	0.91	1.94	2.44	3.01	3.01	2.14	1.12	2.37	2.99	4.08	4.08	2.77	15.0
15.5	0.82	1.70	2.13	3.25	3.25	1.82	0.67	1.34	1.56	2.05	2.12	1.53	0.81	1.70	2.14	2.82	2.82	1.94	0.99	2.09	2.62	3.82	3.82	2.51	15.5
16.0	0.73	1.50	1.88	3.05	3.05	1.65	0.59	1.20	1.40	1.90	1.99	1.39	0.72	1.50	1.89	2.64	2.65	1.77	0.88	1.85	2.32	3.58	3.58	2.28	16.0
16.5	0.66	1.34	1.67	2.84	2.87	1.51	0.52	1.09	1.27	1.76	1.87	1.27	0.64	1.33	1.67	2.44	2.49	1.61	0.79	1.64	2.05	3.37	3.37	2.08	16.5
17.0	0.59	1.19	1.48	2.61	2.71	1.38	0.47	0.98	1.15	1.63	1.76	1.16	0.57	1.19	1.49	2.27	2.35	1.47	0.71	1.46	1.82	3.17	3.17	1.90	17.0
17.5	0.53	1.07	1.32	2.40	2.55	1.26	0.42	0.87	1.04	1.51	1.66	1.07	0.51	1.06	1.33	2.10	2.21	1.35	0.64	1.30	1.63	2.95	2.99	1.74	17.5
18.0	0.48	0.96	1.19	2.20	2.41	1.16	0.38	0.78	0.95	1.40	1.57	0.98	0.46	0.95	1.19	1.96	2.09	1.24	0.57	1.17	1.46	2.71	2.83	1.60	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

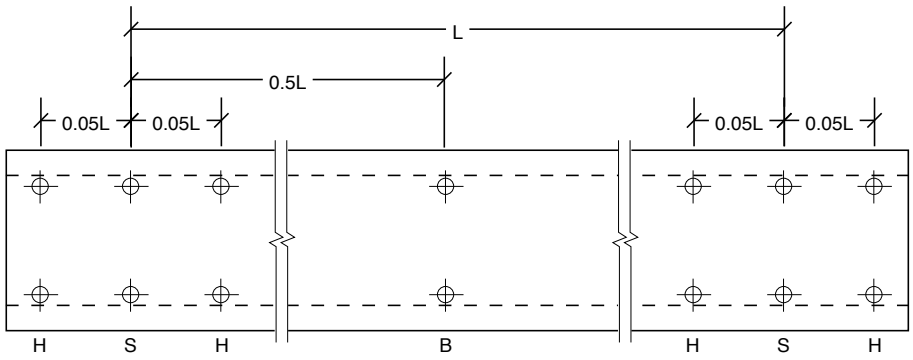
M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

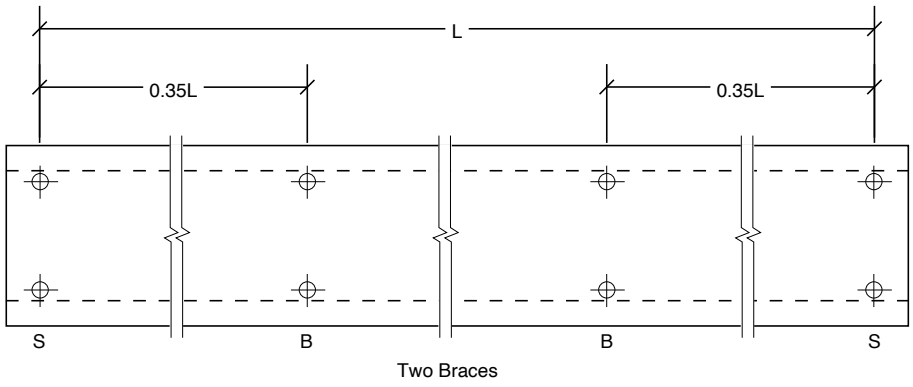
PURLIN STANDARD HOLE LOCATIONS

Lapped Span

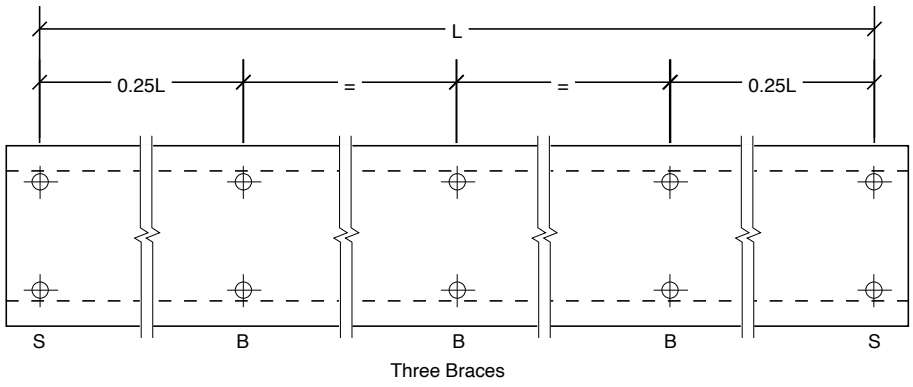


One Brace
(or Braces as per below)

Unlapped Span



Two Braces

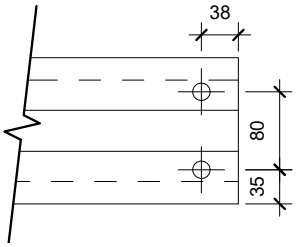


Three Braces

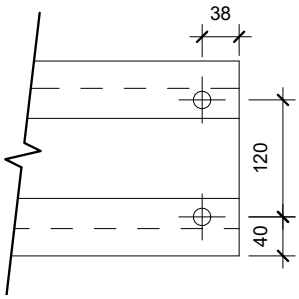
L - LENGTH BETWEEN SUPPORTS
S - SUPPORT HOLES
B - BRACE
H - LAP HOLES

NOTE: WHEN USING fastBRACE
18mm DIAMETER ROUND HOLES
MUST BE USED.

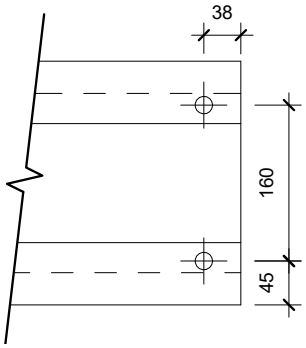
DHS PURLIN STANDARD HOLE LOCATIONS



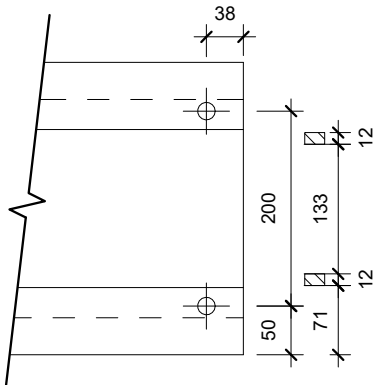
DHS 150



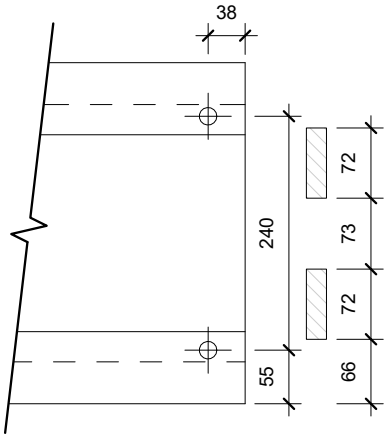
DHS 200



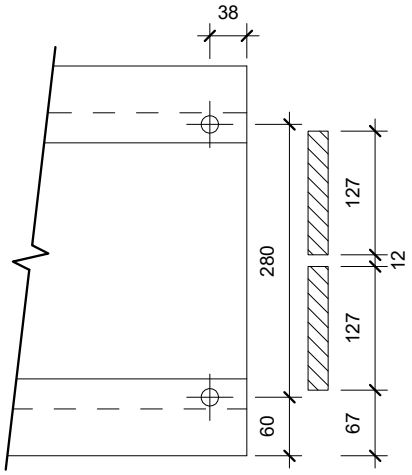
DHS 250



DHS 300



DHS 350



DHS 400

NOTE: HOLES CANNOT BE PUNCHED IN THE AREAS SHOWN AS ▨ IN THE DIAGRAM ABOVE.

ALL HOLES ARE 18mm UNLESS SPECIFIED OTHERWISE

Dimond Structural™

CEE PURLIN

June 2026

Distortional Buckling Stresses and Design Capacities in Compression, Bending and Shear

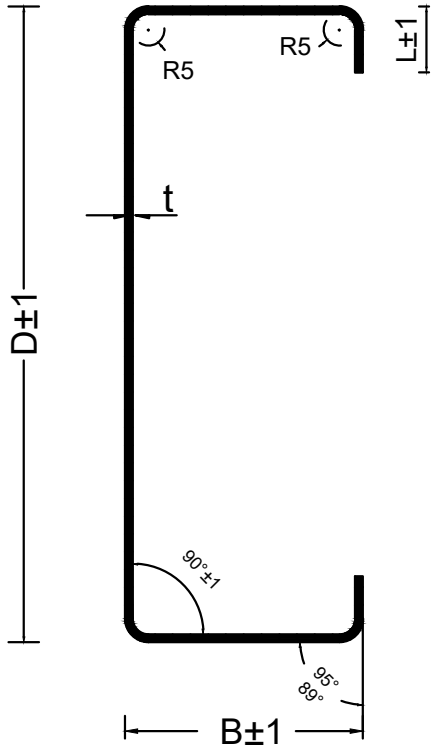
The following table lists design capacities and distortional buckling stresses that were used in determining the load span tables.

CEE size	Compression	Bending			Shear
	$\phi_c N_s$ (kN)	$\phi_b M_{sx}$ (kNm)	f_{odx}(MPa)	$\phi_b M_{bdx}$ (kNm)	$\phi_v V_{vy}$ (kN)
100/10	50.82	2.625	349.9	2.146	8.466
100/12	62.56	3.024	431.5	2.629	15.09
100/16	91.11	3.947	603.4	3.652	30.34
100/19	120.7	4.943	740.4	4.584	41.38
150/12	68.21	5.339	265.5	4.494	9.61
150/15	95.97	7.598	343.1	6.209	19.34
150/19	129.3	9.215	452.6	8.115	40.41
150/24	196.5	12.73	615.3	11.48	72.73
200/15	113.1	11.86	319.5	10.10	14.17
200/19	148.8	15.60	418.4	13.23	29.56
200/24	218.9	20.94	562.5	18.77	64.93
250/15	109.4	14.33	218.6	12.48	11.18
250/19	146.9	19.53	287.0	16.55	23.31
250/24	218.1	28.71	387.4	23.78	51.13
300/24(90)	221.3	35.87	316.3	29.23	42.16
300/24(100)	224.1	36.18	276.7	29.60	42.16
300/30(90)	307.5	48.02	405.9	39.03	78.61
300/30(100)	310.5	49.09	353.9	39.59	78.61
350/24	236.0	43.95	282.3	37.46	35.88
350/30	326.6	62.53	370.6	50.87	66.84
400/24	253.4	53.53	282.2	46.02	31.22
400/30	341.0	73.36	358.8	61.52	58.14

PLAIN CEE SECTION LIBRARY

CEE Size	D (mm)	B (mm)	L (mm)	t (mm)	R (mm)	Mass (kg/m)
100/10	100	50	14	0.95	5	1.67
100/12	100	50	14	1.15	5	2.01
100/15	100	50	14	1.55	5	2.68
100/19	100	50	14	1.85	5	3.18
150/12	150	65	16	1.15	5	2.80
150/15	150	65	16	1.45	5	3.51
150/19	150	65	16	1.85	5	4.45
150/24	150	65	16	2.4	5	5.72
200/15	200	75	23	1.45	5	4.50
200/19	200	75	23	1.85	5	5.71
200/24	200	75	23	2.4	5	7.36
250/15	250	85	23	1.45	5	5.28
250/19	250	85	21	1.85	5	6.71
250/24	250	85	21	2.4	5	8.65
300/24 (90)	300	90	21	2.4	5	9.83
300/24 (100)	300	100	21	2.4	5	10.22
300/30 (90)	300	90	21	3.0	5	12.02
300/30 (100)	300	100	21	3.0	5	12.50
350/24	350	100	25	2.4	5	11.36
350/30	350	100	25	3.0	5	13.94
400/24	400	100	30	2.4	5	12.53
400/30	400	100	30	3.0	5	15.34

Fig 1 Plain Cee purlin



CEE PURLIN SYSTEM SECTION PROPERTIES

CEE Section	Full (Gross) Section Properties											Effective Section Properties						
	A_g (mm^2)	I_x ($10^6 mm^4$)	I_y ($10^6 mm^4$)	Z_x ($10^3 mm^3$)	$Z_y^{(+ve)}$ ($10^3 mm^3$)	$Z_y^{(-ve)}$ ($10^3 mm^3$)	r_x (mm)	r_y (mm)	β_y (mm)	J (mm^4)	I_w ($10^9 mm^6$)	$A_{e(fy)}$ (mm^2)	I_{ex} ($10^6 mm^4$)	$I_{ey}^{(+ve)}$ ($10^6 mm^4$)	$I_{ey}^{(-ve)}$ ($10^6 mm^4$)	Z_{ex} ($10^3 mm^3$)	$Z_{ey}^{(+ve)}$ ($10^3 mm^3$)	$Z_{ey}^{(-ve)}$ ($10^3 mm^3$)
100/10	204.0	0.3301	0.07115	6.602	2.141	4.241	40.23	18.68	121.1	61.37	0.1536	108.7	0.2783	0.07072	0.05336	5.024	2.124	1.916
100/12	245.8	0.3958	0.08485	7.916	2.554	5.058	40.13	18.58	120.7	108.4	0.1820	147.2	0.3459	0.08485	0.06887	6.367	2.554	2.359
100/16	328.3	0.5233	0.1110	10.47	3.340	6.621	39.92	18.39	120.0	262.9	0.2347	238.2	0.4853	0.1110	0.1010	9.232	3.340	3.226
100/19	389.2	0.6156	0.1294	12.31	3.893	7.718	39.77	18.23	119.4	444.0	0.2710	315.5	0.5936	0.1294	0.1239	11.56	3.893	3.837
150/12	342.4	1.225	0.1938	16.33	4.292	9.766	59.81	23.79	170.4	151.0	0.8718	160.5	0.9735	0.1935	0.1370	11.24	4.282	3.750
150/15	429.7	1.529	0.2401	20.39	5.317	12.10	59.65	23.64	169.9	301.1	1.073	225.8	1.312	0.2401	0.1842	16.00	5.317	4.806
150/19	544.6	1.925	0.2992	25.67	6.626	15.08	59.45	23.44	169.3	621.3	1.326	338.1	1.727	0.2992	0.2549	21.56	6.626	6.244
150/24	700.1	2.450	0.3757	32.67	8.319	18.94	59.16	23.17	168.5	1344	1.645	513.7	2.317	0.3757	0.3485	29.79	8.319	8.100
200/15	551.5	3.408	0.4302	34.08	8.211	19.03	78.61	27.93	216.2	386.5	3.565	266.2	2.824	0.4084	0.2917	24.97	7.681	7.133
200/19	700.0	4.303	0.5385	43.03	10.28	23.81	78.40	27.74	215.7	798.6	4.435	389.0	3.882	0.5385	0.4081	36.48	10.28	9.325
200/24	901.7	5.501	0.6805	55.01	12.99	30.08	78.11	27.47	215.0	1731	5.554	572.3	5.124	0.6805	0.5693	48.98	12.99	12.22
250/15	647.2	6.141	0.6011	49.13	9.701	26.10	97.41	30.48	269.9	453.6	7.285	257.4	4.562	0.5803	0.3852	30.17	9.268	8.197
250/19	822.1	7.764	0.7536	62.11	12.16	32.70	97.18	30.28	269.6	937.9	9.088	384.0	6.429	0.7536	0.5394	45.67	12.16	10.76
250/24	1060	9.948	0.9541	79.58	15.40	41.39	96.88	30.00	269.2	2035	11.43	570.1	8.934	0.9541	0.7555	67.15	15.40	14.17
300/24(90)	1204	15.84	1.159	105.6	17.17	51.56	114.7	31.03	326.5	2312	19.70	578.6	13.72	1.159	0.8742	83.91	17.17	15.51
300/24(100)	1252	16.90	1.506	112.7	20.32	58.21	116.2	34.68	325.8	2404	25.39	585.8	14.14	1.506	1.125	84.64	20.32	18.21
300/30(90)	1472	19.26	1.392	128.4	20.62	61.88	114.4	30.75	326.4	4270	23.53	803.9	17.69	1.392	1.138	112.3	20.62	19.20
300/30(100)	1531	20.56	1.812	137.1	24.45	70.03	115.9	34.40	325.5	4442	30.39	811.7	18.36	1.812	1.465	114.8	24.45	22.62
350/24	1391	24.77	1.680	141.5	22.33	67.88	133.4	34.75	381.5	2671	39.30	616.9	20.38	1.680	1.188	102.8	22.33	19.73
350/30	1708	30.28	2.054	173.0	27.40	82.08	133.1	34.68	380.2	4955	48.14	853.9	27.23	2.054	1.573	146.3	27.40	24.99
400/24	1535	34.77	1.877	173.9	24.72	78.01	150.5	34.97	442.8	2948	58.65	662.4	28.58	1.859	1.258	125.2	24.42	21.59
400/30	1879	42.37	2.262	211.9	29.80	93.84	150.2	34.70	443.3	5451	70.41	891.4	37.27	2.262	1.654	171.6	29.80	26.87

PLAIN CEE LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	100/10			FR	50.82	100/12			FR	62.56	100/16			FR	91.11	100/19			FR	120.70	150/12			FR	68.21	150/15			FR	95.97	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	11.90	31.42	40.78	42.57	72.29	15.28	40.62	50.97	52.32	86.68	22.12	62.87	80.56	86.92	114.60	22.12	80.74	103.70	114.50	134.80	26.56	52.48	58.55	58.55	268.50	36.07	73.40	81.93	81.93	335.10	3.0
3.5	9.26	26.41	37.68	42.57	53.11	11.95	35.59	47.37	52.32	63.68	17.13	53.58	75.49	83.55	84.20	17.13	66.76	95.50	108.70	99.05	20.76	47.76	57.95	58.55	197.20	28.06	66.65	81.24	81.93	246.20	3.5
4.0	7.48	22.80	34.41	40.36	40.66	9.49	29.75	43.66	50.49	48.76	13.89	43.30	68.81	79.88	64.46	13.89	54.19	87.51	102.50	75.83	16.67	42.85	55.15	58.55	151.00	22.65	59.82	77.22	81.93	188.50	4.0
4.5	6.16	19.22	31.05	37.98	32.13	7.79	24.44	40.24	47.72	38.52	11.67	35.80	62.16	75.98	50.93	11.67	44.42	79.67	96.26	59.92	13.77	37.87	52.14	58.20	119.30	18.80	53.69	72.91	81.60	148.90	4.5
5.0	5.14	16.10	27.68	35.49	26.02	6.57	20.55	36.88	44.81	31.20	10.09	30.25	56.15	71.05	41.26	10.09	37.03	70.17	90.06	48.53	11.63	33.04	48.97	56.09	96.64	15.94	47.04	68.38	78.57	120.60	5.0
5.5	4.38	13.74	24.66	32.93	21.51	5.67	17.59	32.89	42.15	25.79	8.91	25.70	48.93	65.82	34.10	8.91	31.57	61.10	84.20	40.11	9.99	29.62	45.70	53.84	79.87	13.76	41.27	63.70	75.35	99.69	5.5
6.0	3.81	11.90	22.49	30.35	18.07	4.98	15.28	29.14	39.54	21.67	8.02	22.12	42.45	60.84	28.65	8.02	27.41	53.14	77.66	33.70	8.72	26.56	42.36	51.49	67.11	11.89	36.07	59.21	71.99	83.76	6.0
6.5	3.36	10.44	20.07	27.76	15.40	4.45	13.44	25.50	36.96	18.46	7.32	19.34	37.29	56.28	24.41	7.32	24.17	46.46	70.40	28.72	7.70	23.49	39.00	49.05	57.19	10.39	31.64	55.06	68.50	71.37	6.5
7.0	3.01	9.26	17.71	25.30	13.28	4.03	11.95	22.56	34.00	15.92	6.77	17.13	33.11	50.86	21.05	6.77	21.60	40.82	63.44	24.76	6.87	20.76	35.61	46.55	49.31	9.20	28.06	50.94	64.92	61.54	7.0
7.5	2.72	8.29	15.78	23.50	11.57	3.69	10.61	20.14	30.95	13.87	6.32	15.35	29.67	45.43	18.34	6.32	19.53	36.27	56.80	21.57	6.12	18.53	32.51	44.00	42.95	8.24	25.11	46.22	61.27	53.61	7.5
8.0	2.49	7.48	14.17	21.80	10.17	3.41	9.49	18.12	28.05	12.19	5.96	13.89	26.54	40.90	16.12	5.96	17.83	32.55	51.24	18.96	5.49	16.67	30.20	41.43	37.75	7.45	22.65	42.28	58.05	47.12	8.0
8.5	2.29	6.79	12.82	19.95	9.01	3.18	8.56	16.43	25.35	10.80	5.66	12.69	23.89	37.09	14.28	5.66	16.42	29.46	46.18	16.79	4.96	15.10	28.25	38.85	33.44	6.80	20.57	38.84	54.88	41.74	8.5
9.0	2.13	6.16	11.67	18.12	8.03	2.98	7.79	14.98	23.06	9.63	5.40	11.67	21.67	33.84	12.73	5.40	15.25	26.88	41.79	14.98	4.52	13.77	26.14	36.24	29.83	6.26	18.80	35.35	51.70	37.23	9.0
9.5	1.99	5.61	10.68	16.54	7.21	2.82	7.13	13.74	21.10	8.64	5.19	10.82	19.79	31.04	11.43	5.19	14.25	24.69	38.07	13.44	4.15	12.62	24.03	33.75	26.77	5.79	17.27	32.36	48.15	33.41	9.5
10.0	1.87	5.14	9.82	15.19	6.51	2.68	6.57	12.66	19.40	7.80	5.01	10.09	18.18	28.56	10.31	5.01	13.40	22.82	34.90	12.13	3.83	11.63	22.06	31.56	24.16	5.40	15.94	29.77	44.75	30.16	10.0
10.5	1.77	4.74	9.08	14.00	5.90	2.56	6.09	11.72	17.91	7.08	4.85	9.46	16.80	26.21	9.36	4.85	12.66	21.21	32.17	11.01	3.56	10.76	20.35	29.97	21.91	5.06	14.78	27.51	41.89	27.35	10.5
11.0	1.68	4.38	8.42	12.96	5.38	2.45	5.67	10.80	16.61	6.45	4.71	8.91	15.60	24.18	8.52	4.71	12.03	19.82	29.80	10.03	3.32	9.99	18.84	28.53	19.97	4.77	13.76	25.53	39.29	24.92	11.0
11.5	1.61	4.08	7.85	12.05	4.92	2.36	5.31	10.00	15.46	5.90	4.59	8.43	14.56	22.40	7.80	4.59	11.48	18.60	27.73	9.17	3.11	9.32	17.52	26.83	18.27	4.51	12.79	23.77	36.51	22.80	11.5
12.0	1.54	3.81	7.33	11.24	4.52	2.28	4.98	9.29	14.44	5.42	4.49	8.02	13.64	20.85	7.16	4.49	10.99	17.53	25.92	8.43	2.93	8.72	16.34	25.32	16.78	4.28	11.89	22.21	34.05	20.94	12.0
12.5	1.48	3.57	6.87	10.51	4.16	2.21	4.70	8.67	13.53	4.99	4.40	7.65	12.83	19.47	6.60	4.40	10.56	16.59	24.32	7.77	2.77	8.18	15.29	23.65	15.46	4.08	11.09	20.82	31.86	19.30	12.5
13.0	1.43	3.36	6.44	9.86	3.85	2.15	4.45	8.12	12.71	4.62	4.32	7.32	12.11	18.25	6.10	4.32	10.18	15.76	22.90	7.18	2.63	7.70	14.35	22.15	14.30	3.91	10.39	19.57	29.89	17.84	13.0
13.5	1.38	3.17	6.03	9.28	3.57	2.09	4.23	7.63	11.97	4.28	4.24	7.03	11.47	17.17	5.66	4.24	9.84	15.01	21.64	6.66	2.50	7.26	13.50	20.81	13.26	3.75	9.76	18.44	28.12	16.55	13.5
14.0	1.34	3.01	5.66	8.75	3.32	2.04	4.03	7.19	11.25	3.98	4.18	6.77	10.90	16.19	5.26	4.18	9.54	14.34	20.51	6.19	2.38	6.87	12.73	19.59	12.33	3.61	9.20	17.42	26.52	15.39	14.0
14.5	1.30	2.86	5.33	8.27	3.09	2.00	3.85	6.80	10.58	3.71	4.12	6.54	10.39	15.32	4.91	4.12	9.26	13.75	19.49	5.77	2.28	6.49	12.03	18.49	11.49	3.48	8.69	16.49	25.06	14.34	14.5
15.0	1.27	2.72	5.03	7.83	2.89	1.96	3.69	6.45	9.98	3.47	4.07	6.32	9.92	14.53	4.58	4.07	9.02	13.21	18.58	5.39	2.19	6.12	11.40	17.49	10.74	3.37	8.24	15.64	23.74	13.40	15.0
15.5	1.24	2.60	4.77	7.44	2.71	1.92	3.54	6.12	9.44	3.25	4.02	6.13	9.50	13.82	4.29	4.02	8.80	12.72	17.75	5.05	2.11	5.79	10.82	16.58	10.06	3.27	7.83	14.87	22.53	12.55	15.5
16.0	1.21	2.49	4.52	7.07	2.54	1.89	3.41	5.83	8.94	3.05	3.98	5.96	9.12	13.18	4.03	3.98	8.59	12.28	16.99	4.74	2.03	5.49	10.29	15.74	9.44	3.17	7.45	14.16	21.42	11.78	16.0
16.5	1.18	2.38	4.30	6.73	2.39	1.86	3.29	5.57	8.49	2.87	3.94	5.80	8.78	12.59	3.79	3.94	8.41	11.87	16.31	4.46	1.96	5.21	9.80	14.97	8.88	3.09	7.11	13.51	20.40	11.08	16.5
17.0	1.16	2.29	4.09	6.40	2.25	1.83	3.18	5.32	8.08	2.70	3.90	5.66	8.46	12.05	3.57	3.90	8.24	11.50	15.68	4.20	1.90	4.96	9.35	14.27	8.36	3.01	6.80	12.84	19.46	10.43	17.0
17.5	1.14	2.21	3.91	6.09	2.12	1.80	3.08	5.10	7.70	2.55	3.87	5.53	8.17	11.56	3.37	3.87	8.09	11.17	15.11	3.96	1.84	4.73	8.94	13.61	7.89	2.94	6.52	12.22	18.59	9.85	17.5
18.0	1.12	2.13	3.74	5.80	2.01	1.78	2.98	4.90	7.35	2.41	3.84	5.40	7.90	11.11	3.18	3.84	7.95	10.86	14.59	3.75	1.79	4.52	8.55	13.01	7.46	2.87	6.26	11.64	17.79	9.31	18.0

PLAIN CEE LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	150/19			FR	129.30	150/24			FR	196.50	200/15			FR	113.10	200/19			FR	148.80	200/24			FR	218.90	250/15			FR	109.40	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	49.45	106.80	115.20	115.20	421.70	69.45	157.80	186.00	187.70	536.80	55.69	95.37	95.72	95.72	746.90	76.07	132.00	135.80	135.80	943.00	105.70	197.70	201.20	201.20	1205.00	60.32	88.75	88.75	88.75	1346.00	3.0
3.5	38.72	97.86	115.20	115.20	309.80	53.92	140.90	178.30	187.70	394.40	43.33	89.73	95.72	95.72	548.80	59.07	123.50	135.80	135.80	692.80	82.68	186.30	201.20	201.20	885.70	49.51	88.75	88.75	88.75	988.80	3.5
4.0	31.43	87.62	111.90	115.20	237.20	43.04	125.10	168.00	185.00	301.90	34.71	83.63	95.72	95.72	420.20	47.60	114.30	135.80	135.80	530.40	67.03	172.10	201.20	201.20	678.10	42.04	84.25	88.75	88.75	757.00	4.0
4.5	26.00	76.12	106.10	115.20	187.40	35.58	109.30	156.60	179.10	238.60	28.61	77.14	94.97	95.72	332.00	39.44	107.00	131.40	135.80	419.10	55.82	158.10	197.00	201.20	535.80	34.56	78.52	88.75	88.75	598.20	4.5
5.0	21.74	66.36	100.10	113.70	151.80	30.24	92.53	145.10	171.60	193.20	24.12	70.17	91.19	95.72	268.90	33.40	99.51	125.70	135.80	339.50	47.49	139.50	189.90	201.20	434.00	29.05	72.57	88.75	88.75	484.50	5.0
5.5	18.58	56.87	93.99	109.40	125.50	26.29	79.59	134.00	163.00	159.70	20.70	63.12	87.19	95.72	222.20	28.78	87.90	119.60	134.40	280.50	40.95	121.70	180.20	200.70	358.70	24.88	66.49	87.41	88.75	400.40	5.5
6.0	16.18	49.45	86.44	104.90	105.40	23.29	69.45	123.70	154.20	134.20	18.02	55.69	83.01	94.20	186.70	25.16	76.07	113.40	130.20	235.70	35.32	105.70	170.70	195.60	301.40	21.62	60.32	83.70	88.75	336.50	6.0
6.5	14.32	43.53	78.61	100.30	89.83	20.95	61.33	113.30	145.40	114.30	15.89	49.07	78.67	91.29	159.10	22.26	66.68	108.60	125.80	200.90	30.93	93.01	161.80	190.10	256.80	19.02	54.48	79.84	88.75	286.70	6.5
7.0	12.84	38.72	71.31	95.58	77.45	19.10	53.92	101.30	136.80	98.59	14.15	43.33	74.03	88.24	137.20	19.89	59.07	103.90	121.20	173.20	27.44	82.68	149.70	182.70	221.40	16.92	49.51	75.87	88.33	247.20	7.0
7.5	11.64	34.75	65.06	90.43	67.47	17.60	47.93	90.75	128.60	85.89	12.72	38.62	69.31	85.08	119.50	17.76	52.82	98.35	116.40	150.90	24.63	74.16	137.30	175.30	192.90	15.18	45.84	71.82	85.54	215.30	7.5
8.0	10.66	31.43	58.60	84.21	59.30	16.38	43.04	81.95	121.00	75.49	11.52	34.71	64.57	81.82	105.00	15.93	47.60	90.56	112.00	132.60	22.33	67.03	125.30	168.20	169.50	13.72	42.04	67.72	82.64	189.30	8.0
8.5	9.85	28.62	53.14	78.27	52.53	15.36	38.98	74.50	112.80	66.87	10.50	31.41	59.46	78.47	93.05	14.41	43.20	81.96	108.40	117.50	20.42	60.99	113.60	161.40	150.20	12.49	37.99	63.59	79.67	167.70	8.5
9.0	9.17	26.00	48.49	72.61	46.85	14.51	35.58	68.14	103.50	59.64	9.63	28.61	54.70	74.91	82.99	13.14	39.44	74.55	104.80	104.80	18.82	55.82	103.70	152.10	133.90	11.44	34.56	59.39	76.63	149.50	9.0
9.5	8.60	23.70	44.49	67.68	42.05	13.79	32.70	62.65	94.94	53.53	8.83	26.20	50.22	71.30	74.49	12.07	36.21	68.20	101.00	94.03	17.47	51.37	95.07	142.50	120.20	10.53	31.61	55.44	73.53	134.20	9.5
10.0	8.11	21.74	41.02	62.69	37.95	13.18	30.24	57.43	87.52	48.31	8.10	24.12	46.07	67.67	67.23	11.15	33.40	62.70	96.20	84.87	16.31	47.49	87.61	133.10	108.50	9.74	29.05	51.91	70.40	121.10	10.0
10.5	7.69	20.05	37.98	57.92	34.42	12.65	28.13	52.79	81.03	43.82	7.47	22.30	42.45	64.02	60.98	10.36	30.94	57.91	89.56	76.98	15.32	44.10	81.10	123.90	98.41	9.04	26.83	48.73	67.25	109.90	10.5
11.0	7.32	18.58	35.31	53.74	31.37	12.19	26.29	48.77	75.32	39.93	6.92	20.70	39.28	60.06	55.56	9.68	28.78	53.70	82.91	70.14	14.46	40.95	75.36	114.90	89.66	8.43	24.88	46.27	64.08	100.10	11.0
11.5	7.00	17.31	32.94	50.04	28.70	11.79	24.69	45.26	70.26	36.53	6.44	19.28	36.49	56.30	50.83	9.08	26.86	49.98	77.01	64.17	13.71	37.95	70.28	107.00	82.04	7.89	23.15	44.06	60.89	91.59	11.5
12.0	6.72	16.18	30.84	46.75	26.36	11.44	23.29	42.18	65.76	33.55	6.02	18.02	34.01	52.90	46.68	8.55	25.16	46.68	71.79	58.93	13.05	35.32	65.76	99.93	75.34	7.40	21.62	41.19	57.69	84.12	12.0
12.5	6.47	15.20	28.95	43.81	24.29	11.13	22.05	39.46	61.72	30.92	5.65	16.90	31.80	49.41	43.02	8.09	23.63	43.72	67.13	54.31	12.46	32.99	61.71	93.62	69.44	6.97	20.25	38.48	54.77	77.52	12.5
13.0	6.25	14.32	27.17	41.17	22.46	10.85	20.95	37.05	57.68	28.59	5.32	15.89	29.82	46.26	39.78	7.68	22.26	41.07	62.96	50.22	11.95	30.93	58.07	87.95	64.20	6.55	19.02	36.05	52.07	71.67	13.0
13.5	6.06	13.54	25.46	38.79	20.82	10.61	19.97	34.90	54.03	26.51	5.03	14.98	28.04	43.42	36.89	7.31	21.02	38.68	59.19	46.57	11.49	29.09	54.78	82.85	59.53	6.15	17.92	33.86	49.59	66.46	13.5
14.0	5.88	12.84	23.92	36.64	19.36	10.39	19.10	32.97	50.77	24.65	4.77	14.15	26.43	40.86	34.30	6.99	19.89	36.52	55.80	43.30	11.08	27.44	51.80	78.22	55.35	5.79	16.92	31.89	47.30	61.80	14.0
14.5	5.73	12.21	22.54	34.68	18.05	10.19	18.31	31.25	47.83	22.98	4.53	13.40	24.97	38.55	31.97	6.69	18.82	34.56	52.71	40.36	10.71	25.96	49.09	74.01	51.60	5.46	16.00	30.10	45.79	57.61	14.5
15.0	5.58	11.64	21.30	32.90	16.87	10.02	17.60	29.69	45.19	21.47	4.32	12.72	23.64	36.44	29.88	6.43	17.76	32.77	49.91	37.72	10.37	24.63	46.62	70.18	48.22	5.17	15.18	28.48	44.01	53.83	15.0
15.5	5.46	11.13	20.17	31.26	15.80	9.86	16.96	28.28	42.80	20.11	4.13	12.09	22.43	34.51	27.98	6.19	16.80	31.13	47.34	35.32	10.07	23.43	44.35	66.67	45.16	4.90	14.42	26.99	41.80	50.42	15.5
16.0	5.34	10.66	19.15	29.77	14.82	9.71	16.38	27.00	40.63	18.87	3.95	11.52	21.32	32.76	26.26	5.97	15.93	29.62	44.99	33.15	9.80	22.33	42.27	63.45	42.38	4.66	13.72	25.64	39.64	47.32	16.0
16.5	5.23	10.24	18.22	28.39	13.94	9.58	15.85	25.84	38.65	17.75	3.79	10.99	20.29	31.14	24.69	5.77	15.14	28.24	42.83	31.17	9.55	21.33	40.10	60.49	39.85	4.44	13.08	24.39	37.66	44.49	16.5
17.0	5.14	9.85	17.37	27.01	13.13	9.46	15.36	24.77	36.84	16.72	3.65	10.50	19.35	29.66	23.26	5.59	14.41	26.96	40.84	29.37	9.32	20.42	38.10	57.76	37.54	4.24	12.49	23.24	35.84	41.91	17.0
17.5	5.05	9.50	16.59	25.69	12.39	9.35	14.92	23.80	35.19	15.78	3.52	10.05	18.48	28.29	21.95	5.43	13.75	25.78	39.01	27.71	9.11	19.59	36.28	55.23	35.43	4.06	11.94	22.18	34.16	39.55	17.5
18.0	4.97	9.17	15.88	24.48	11.71	9.24	14.51	22.91	33.67	14.91	3.39	9.63	17.68	27.02	20.75	5.27	13.14	24.69	37.31	26.19	8.92	18.82	34.60	52.88	33.49	3.89	11.44	21.20	32.61	37.39	18.0

PLAIN CEE LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	250/19			FR	146.90	250/24			FR	218.10	300/24-90			FR	221.30	300/24-100			FR	224.10	300/30-90			FR	307.50	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	85.82	129.00	129.00	129.00	1702.00	125.20	190.80	190.80	190.80	2180.00	134.30	180.30	180.30	180.30	3472.00	150.30	190.20	190.20	190.20	3705.00	179.40	249.10	249.10	249.10	4220.00	3.0
3.5	70.89	127.10	129.00	129.00	1250.00	99.73	188.10	190.80	190.80	1602.00	109.50	180.30	180.30	180.30	2551.00	129.30	190.20	190.20	190.20	2722.00	143.10	249.10	249.10	249.10	3101.00	3.5
4.0	57.41	119.20	129.00	129.00	957.20	80.62	177.40	190.80	190.80	1226.00	88.63	180.30	180.30	180.30	1953.00	106.90	190.20	190.20	190.20	2084.00	116.20	249.10	249.10	249.10	2374.00	4.0
4.5	47.44	110.80	129.00	129.00	756.30	66.98	166.20	190.80	190.80	969.00	73.58	171.00	180.30	180.30	1543.00	91.13	183.50	190.20	190.20	1647.00	96.88	239.20	249.10	249.10	1876.00	4.5
5.0	40.08	102.10	129.00	129.00	612.60	56.86	154.80	190.70	190.80	784.90	62.42	159.80	180.30	180.30	1250.00	77.00	172.50	190.20	190.20	1334.00	82.48	218.10	249.10	249.10	1519.00	5.0
5.5	34.46	93.26	123.80	129.00	506.30	49.09	139.40	183.70	190.80	648.70	53.86	148.50	180.30	180.30	1033.00	66.23	161.10	190.20	190.20	1102.00	71.40	197.90	249.10	249.10	1256.00	5.5
6.0	30.06	85.82	118.40	129.00	425.40	42.99	125.20	176.30	190.80	545.10	47.14	134.30	180.30	180.30	868.00	57.78	150.30	190.20	190.20	926.30	62.66	179.40	249.10	249.10	1055.00	6.0
6.5	26.54	78.17	112.80	129.00	362.50	38.09	112.40	168.80	190.80	464.40	41.74	120.30	173.50	180.30	739.60	51.03	139.80	186.00	190.20	789.30	55.61	160.90	243.90	249.10	899.00	6.5
7.0	23.68	70.89	107.00	125.10	312.60	34.08	99.73	161.10	185.50	400.40	37.33	109.50	166.00	180.30	637.70	45.52	129.30	178.70	190.20	680.50	49.84	143.10	229.70	249.10	775.20	7.0
7.5	21.30	63.80	101.00	121.10	272.30	30.76	89.32	152.80	179.90	348.80	33.66	98.23	158.40	180.30	555.50	40.96	117.30	171.10	190.20	592.80	45.05	128.50	215.60	249.10	675.30	7.5
8.0	19.31	57.41	95.06	116.80	239.30	27.57	80.62	142.40	174.30	306.60	30.58	88.63	150.80	178.80	488.30	37.13	106.90	163.40	190.20	521.00	40.50	116.20	201.90	249.10	593.50	8.0
8.5	17.62	52.03	89.72	112.50	212.00	24.92	73.26	132.60	168.50	271.60	27.96	80.51	142.30	173.10	432.50	33.88	98.45	155.90	185.60	461.50	36.60	105.80	188.90	243.40	525.70	8.5
9.0	16.18	47.44	84.75	108.10	189.10	22.70	66.98	123.30	162.60	242.20	25.71	73.58	132.10	167.40	385.80	31.10	91.13	148.80	180.10	411.70	33.34	96.88	176.70	232.30	468.90	9.0
9.5	14.93	43.50	79.67	103.50	169.70	20.82	61.56	114.90	156.60	217.40	23.76	67.61	122.50	161.60	346.20	28.69	83.56	141.70	174.30	369.50	30.57	89.19	164.40	221.40	420.90	9.5
10.0	13.81	40.08	74.30	98.98	153.20	19.21	56.86	105.80	149.20	196.20	21.79	62.42	114.50	155.80	312.50	26.59	77.00	134.70	168.50	333.50	28.21	82.48	151.60	210.80	379.80	10.0
10.5	12.71	37.09	69.82	94.37	138.90	17.83	52.73	97.79	141.30	178.00	20.09	57.87	107.60	149.90	283.40	24.75	71.27	127.60	162.50	302.50	26.18	76.59	140.40	200.40	344.50	10.5
11.0	11.76	34.46	64.88	90.30	126.60	16.63	49.09	90.79	133.70	162.20	18.62	53.86	99.85	143.50	258.30	22.88	66.23	119.00	156.70	275.60	24.42	71.40	130.50	190.40	313.90	11.0
11.5	10.94	32.13	60.32	86.49	115.80	15.59	45.87	84.59	126.50	148.40	17.34	50.31	93.00	135.60	236.30	21.24	61.76	111.60	151.30	252.10	22.88	66.78	121.80	180.90	287.20	11.5
12.0	10.21	30.06	56.28	82.78	106.40	14.67	42.99	79.07	119.90	136.30	16.21	47.14	86.92	127.90	217.00	19.80	57.78	105.10	145.80	231.60	21.53	62.66	114.00	172.00	263.80	12.0
12.5	9.57	28.21	52.67	78.61	98.02	13.86	40.41	74.14	113.10	125.60	15.22	44.30	81.48	121.00	200.00	18.53	54.23	99.43	140.40	213.40	20.34	58.95	107.00	161.90	243.10	12.5
13.0	9.00	26.54	49.43	74.54	90.62	13.14	38.09	69.71	106.20	116.10	14.33	41.74	76.59	114.90	184.90	17.40	51.03	94.56	135.00	197.30	19.29	55.61	100.80	152.20	224.80	13.0
13.5	8.50	25.04	46.52	71.00	84.03	12.50	35.99	65.71	99.93	107.70	13.55	39.43	72.18	109.70	171.50	16.40	48.14	89.35	129.50	183.00	18.35	52.59	95.08	143.40	208.40	13.5
14.0	8.04	23.68	43.88	67.45	78.14	11.93	34.08	62.09	94.28	100.10	12.84	37.33	68.19	103.70	159.40	15.50	45.52	84.30	123.30	170.10	17.50	49.84	89.93	135.50	193.80	14.0
14.5	7.64	22.44	41.49	63.68	72.84	11.42	32.35	58.80	89.14	93.33	12.21	35.41	64.56	98.03	148.60	14.70	43.13	79.70	117.00	158.60	16.75	47.34	85.24	128.20	180.70	14.5
15.0	7.27	21.30	39.30	60.24	68.07	10.95	30.76	55.79	84.46	87.21	11.64	33.66	61.24	92.87	138.90	13.97	40.96	75.52	111.40	148.20	16.07	45.05	80.96	121.60	168.80	15.0
15.5	6.94	20.27	37.31	57.10	63.75	10.53	29.09	53.04	80.19	81.67	11.13	32.06	58.21	88.15	130.10	13.31	38.96	71.69	106.40	138.80	15.45	42.73	77.03	115.60	158.10	15.5
16.0	6.63	19.31	35.48	54.23	59.83	10.15	27.57	50.51	76.27	76.65	10.66	30.58	55.42	83.82	122.10	12.71	37.13	68.19	101.80	130.30	14.89	40.50	73.42	110.00	148.40	16.0
16.5	6.36	18.43	33.80	51.59	56.25	9.80	26.18	48.18	72.66	72.07	10.23	29.22	52.86	79.84	114.80	12.17	35.44	64.96	97.78	122.50	14.38	38.46	70.09	104.90	139.50	16.5
17.0	6.11	17.62	32.25	49.16	52.99	9.49	24.92	46.03	69.33	67.90	9.84	27.96	50.49	76.17	108.10	11.67	33.88	61.99	94.15	115.40	13.91	36.60	67.02	100.20	131.40	17.0
17.5	5.88	16.87	30.82	46.92	50.01	9.20	23.76	44.04	66.26	64.07	9.49	26.79	48.30	72.78	102.00	11.22	32.44	59.24	90.11	108.90	13.49	34.90	64.17	95.85	124.00	17.5
18.0	5.67	16.18	29.49	44.84	47.27	8.93	22.70	42.20	63.41	60.56	9.16	25.71	46.27	69.64	96.45	10.80	31.10	56.69	86.13	102.90	13.09	33.34	61.52	91.81	117.20	18.0

PLAIN CEE LOAD SPAN TABLES

Axial Compression Capacities (kN) ϕcNc

	300/30-100			FR	310.50	350/24			FR	236.00	350/30			FR	326.60	400/24			FR	253.40	400/30			FR	341.00	
Span (m)	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	0B	1B	2B	3B	Nex	Span (m)
3.0	210.30	261.60	261.60	261.60	4506.00	160.10	188.20	188.20	188.20	5428.00	224.40	266.20	266.20	266.20	6637.00	174.90	186.60	186.60	186.60	7622.00	241.10	260.70	260.70	260.70	9287.00	3.0
3.5	171.70	261.60	261.60	261.60	3310.00	138.10	188.20	188.20	188.20	3988.00	188.90	266.20	266.20	266.20	4876.00	151.10	186.60	186.60	186.60	5600.00	195.30	260.70	260.70	260.70	6823.00	3.5
4.0	143.80	261.60	261.60	261.60	2535.00	115.40	188.20	188.20	188.20	3054.00	152.60	266.20	266.20	266.20	3734.00	121.50	186.60	186.60	186.60	4287.00	158.00	260.70	260.70	260.70	5224.00	4.0
4.5	119.40	254.90	261.60	261.60	2003.00	95.40	188.20	188.20	188.20	2413.00	126.80	266.20	266.20	266.20	2950.00	100.50	186.60	186.60	186.60	3387.00	131.40	260.70	260.70	260.70	4127.00	4.5
5.0	101.30	240.70	261.60	261.60	1622.00	80.64	182.70	188.20	188.20	1954.00	107.60	258.40	266.20	266.20	2389.00	84.99	186.60	186.60	186.60	2744.00	111.50	260.70	260.70	260.70	3343.00	5.0
5.5	87.37	226.00	261.60	261.60	1341.00	69.36	170.90	188.20	188.20	1615.00	92.83	243.30	266.20	266.20	1975.00	73.10	185.70	186.60	186.60	2268.00	96.29	257.60	260.70	260.70	2763.00	5.5
6.0	76.45	210.30	261.60	261.60	1126.00	60.52	160.10	188.20	188.20	1357.00	81.24	224.40	266.20	266.20	1659.00	63.79	174.90	186.60	186.60	1905.00	84.30	241.10	260.70	260.70	2322.00	6.0
6.5	67.69	190.50	258.00	261.60	959.80	53.45	150.00	188.20	188.20	1156.00	71.92	206.70	266.20	266.20	1414.00	56.33	166.20	186.60	186.60	1624.00	74.66	218.10	260.70	260.70	1978.00	6.5
7.0	60.52	171.70	248.60	261.60	827.60	47.68	138.10	188.20	188.20	997.10	64.31	188.90	265.90	266.20	1219.00	50.25	151.10	186.60	186.60	1400.00	66.77	195.30	260.70	260.70	1706.00	7.0
7.5	54.58	156.20	238.90	261.60	721.00	42.90	126.30	181.30	188.20	868.60	57.99	169.10	256.70	266.20	1062.00	45.21	135.00	186.60	186.60	1219.00	60.22	175.00	260.70	260.70	1486.00	7.5
8.0	49.58	143.80	229.00	261.60	633.60	38.89	115.40	173.30	188.20	763.40	52.67	152.60	247.20	266.20	933.40	40.98	121.50	186.60	186.60	1072.00	54.70	158.00	260.70	260.70	1306.00	8.0
8.5	45.23	130.60	219.00	257.60	561.30	35.49	104.60	165.40	188.20	676.20	48.14	138.70	234.20	266.20	826.80	37.39	110.20	179.60	186.60	949.40	50.00	143.70	249.60	260.70	1157.00	8.5
9.0	41.05	119.40	207.30	250.40	500.70	32.57	95.40	158.60	188.20	603.20	44.25	126.80	221.60	266.20	737.50	34.31	100.50	173.60	186.60	846.90	45.97	131.40	237.90	260.70	1032.00	9.0
9.5	37.51	109.70	193.90	243.00	449.30	30.04	87.50	151.80	184.60	541.30	40.88	116.50	209.70	260.60	661.90	31.64	92.21	167.80	186.60	760.10	42.47	120.80	222.10	260.70	926.10	9.5
10.0	34.48	101.30	180.90	235.50	405.50	27.84	80.64	145.10	178.50	488.60	37.94	107.60	198.60	253.40	597.40	29.31	84.99	160.00	186.60	686.00	39.40	111.50	206.80	260.70	835.80	10.0
10.5	31.88	93.88	168.70	227.90	367.80	25.90	74.64	135.90	172.40	443.10	35.07	99.73	185.20	245.70	541.80	27.27	78.67	148.10	186.60	622.20	36.71	103.40	191.50	259.70	758.10	10.5
11.0	29.63	87.37	158.30	220.20	335.20	24.19	69.36	127.90	166.20	403.80	32.44	92.83	171.90	235.70	493.70	25.46	73.10	137.20	180.60	566.90	34.33	96.29	177.90	250.90	690.70	11.0
11.5	27.66	81.60	149.50	212.10	306.60	22.67	64.68	121.20	160.90	369.40	30.15	86.70	160.20	226.00	451.70	23.85	68.18	127.70	175.70	518.70	32.20	89.96	165.80	242.50	632.00	11.5
12.0	25.93	76.45	141.00	201.70	281.60	21.31	60.52	113.10	155.70	339.30	28.14	81.24	149.70	216.60	414.80	22.41	63.79	119.20	171.10	476.40	30.20	84.30	155.00	231.30	580.40	12.0
12.5	24.41	71.84	132.20	191.50	259.50	20.08	56.80	105.90	150.50	312.70	26.36	76.34	140.40	207.60	382.30	21.12	59.86	111.60	166.70	439.00	28.21	79.23	145.40	219.30	534.90	12.5
13.0	23.06	67.69	124.30	181.60	240.00	18.83	53.45	99.39	145.40	289.10	24.79	71.92	132.00	199.10	353.50	19.95	56.33	104.70	160.50	405.90	26.44	74.66	136.70	207.50	494.60	13.0
13.5	21.85	63.93	117.10	172.00	222.50	17.68	50.42	93.55	138.40	268.10	23.39	67.93	124.40	189.20	327.80	18.90	53.14	98.58	151.40	376.40	24.86	70.53	128.90	195.70	458.60	13.5
14.0	20.77	60.52	110.60	163.50	206.90	16.65	47.68	88.26	131.80	249.30	22.13	64.31	117.50	178.50	304.80	17.93	50.25	93.02	142.60	350.00	23.45	66.77	121.80	184.70	426.40	14.0
14.5	19.81	57.41	104.70	155.90	192.90	15.73	45.18	83.46	126.10	232.40	21.00	61.01	111.20	168.80	284.10	17.06	47.61	87.96	134.70	326.30	22.18	63.35	115.30	174.70	397.50	14.5
15.0	18.93	54.58	99.35	149.30	180.20	14.90	42.90	79.09	121.00	217.10	19.98	57.99	105.50	159.90	265.50	16.19	45.21	83.35	127.50	304.90	21.03	60.22	109.40	165.50	371.50	15.0
15.5	18.14	51.97	94.42	143.00	168.80	14.14	40.81	75.08	114.70	203.40	19.06	55.22	100.30	151.80	248.60	15.33	43.00	79.14	120.90	285.50	20.00	57.34	104.00	157.20	347.90	15.5
16.0	17.43	49.58	89.90	136.00	158.40	13.46	38.89	71.41	109.00	190.80	18.23	52.67	95.51	144.40	233.30	14.54	40.98	75.27	114.80	268.00	19.06	54.70	99.07	149.50	326.50	16.0
16.5	16.77	47.37	85.74	129.50	149.00	12.83	37.12	68.04	103.70	179.50	17.46	50.32	91.10	137.50	219.40	13.83	39.11	71.71	109.30	252.00	18.20	52.26	94.51	142.50	307.00	16.5
17.0	16.18	45.23	81.89	123.60	140.30	12.26	35.49	64.93	98.84	169.10	16.77	48.14	87.02	131.20	206.70	13.18	37.39	68.43	104.20	237.40	17.42	50.00	90.28	136.00	289.20	17.0
17.5	15.63	43.05	78.34	118.10	132.40	11.74	33.97	62.05	94.35	159.50	16.13	46.13	83.24	125.40	195.10	12.59	35.79	65.40	99.42	224.00	16.71	47.91	86.38	129.90	272.90	17.5
18.0	15.13	41.05	75.04	113.00	125.20	11.26	32.57	59.38	90.18	150.80	15.55	44.25	79.73	120.00	184.40	12.04	34.31	62.58	95.05	211.70	16.05	45.97	82.75	124.40	258.00	18.0

PLAIN CEE LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	100/10						100/12						100/16						100/19						150/12						150/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	1.10	1.91	1.91	1.91	1.91	1.15	1.40	2.31	2.34	2.34	2.34	1.41	2.00	3.29	3.48	3.48	3.48	1.90	2.48	4.12	4.38	4.38	4.38	2.27	3.54	4.00	3.99	3.99	4.00	4.17	4.60	5.52	5.52	5.52	5.52	5.39	3.0
3.5	0.65	1.33	1.40	1.40	1.40	0.73	0.82	1.57	1.72	1.72	1.72	0.89	1.16	2.26	2.56	2.56	2.56	1.20	1.44	2.81	3.22	3.22	3.22	1.43	2.13	2.93	2.94	2.94	2.94	2.62	2.77	4.06	4.06	4.06	4.06	3.39	3.5
4.0	0.41	0.91	1.07	1.07	1.07	0.49	0.51	1.09	1.31	1.31	1.31	0.59	0.72	1.59	1.93	1.96	1.96	0.80	0.91	1.95	2.42	2.47	2.47	0.96	1.33	2.25	2.25	2.25	2.25	1.76	1.76	3.11	3.11	3.11	3.10	2.27	4.0
4.5	0.26	0.62	0.85	0.85	0.85	0.34	0.33	0.76	1.03	1.04	1.04	0.42	0.48	1.13	1.47	1.55	1.55	0.56	0.61	1.37	1.84	1.95	1.95	0.67	0.88	1.74	1.78	1.78	1.78	1.24	1.17	2.35	2.45	2.45	2.45	1.60	4.5
5.0	0.18	0.43	0.68	0.69	0.69	0.25	0.23	0.54	0.80	0.84	0.84	0.30	0.34	0.78	1.14	1.25	1.25	0.41	0.44	0.97	1.43	1.57	1.58	0.49	0.61	1.34	1.44	1.44	1.44	0.90	0.80	1.76	1.99	1.99	1.99	1.16	5.0
5.5			0.53	0.57	0.57	0.19			0.62	0.70	0.70	0.23	0.25	0.56	0.90	1.01	1.04	0.31	0.32	0.69	1.12	1.26	1.30	0.37	0.44	1.02	1.19	1.19	1.19	0.68	0.57	1.33	1.64	1.64	1.64	0.87	5.5
6.0									0.49	0.58	0.58	0.18			0.72	0.82	0.87	0.24	0.25	0.50	0.88	1.03	1.10	0.28	0.32	0.76	1.00	1.00	1.00	0.52	0.41	0.99	1.38	1.38	1.38	0.67	6.0
6.5										0.48	0.50	0.14			0.57	0.68	0.74	0.19			0.70	0.85	0.93	0.22	0.24	0.57	0.85	0.85	0.85	0.41	0.31	0.75	1.16	1.18	1.18	0.53	6.5
7.0											0.43	0.11			0.46	0.57	0.64	0.15			0.55	0.71	0.80	0.18	0.18	0.44	0.71	0.73	0.73	0.33	0.23	0.58	0.96	1.01	1.01	0.42	7.0
7.5																0.47	0.56	0.12				0.59	0.70	0.15			0.60	0.64	0.64	0.27	0.18	0.46	0.79	0.88	0.88	0.34	7.5
8.0																	0.49	0.10				0.49	0.62	0.12			0.51	0.56	0.56	0.22			0.66	0.78	0.78	0.28	8.0
8.5																												0.50	0.50	0.18			0.55	0.68	0.69	0.24	8.5
9.0																												0.44	0.44	0.15			0.45	0.59	0.61	0.20	9.0
9.5																																		0.51	0.55	0.17	9.5
10.0																																			0.50	0.15	10.0
10.5																																			0.45	0.13	10.5

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	150/19						150/24						200/15						200/19						200/24						250/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	6.16	7.71	7.71	7.71	7.71	6.88	8.42	10.95	10.95	10.95	10.95	8.97	8.80	8.98	8.98	8.98	8.98	11.81	11.82	12.57	12.57	12.57	12.57	15.43	16.04	17.88	17.88	17.88	17.88	19.97	7.46	7.46	7.46	7.46	7.46	20.29	3.0
3.5	3.79	5.67	5.67	5.67	5.67	4.34	5.04	7.99	8.04	8.04	8.04	5.65	5.98	6.59	6.59	6.59	6.59	7.44	7.70	9.23	9.23	9.23	9.23	9.72	10.61	13.14	13.13	13.14	13.14	12.58	6.39	6.39	6.39	6.39	6.39	12.77	3.5
4.0	2.34	4.20	4.34	4.34	4.34	2.90	3.18	5.83	6.16	6.16	6.16	3.78	3.93	5.05	5.05	5.05	5.05	4.98	5.05	7.07	7.07	7.07	7.07	6.51	6.90	10.06	10.06	10.06	10.06	8.43	5.24	5.59	5.59	5.59	5.59	8.56	4.0
4.5	1.55	3.12	3.43	3.43	3.43	2.04	2.08	4.35	4.87	4.87	4.87	2.66	2.59	3.99	3.99	3.99	3.99	3.50	3.43	5.59	5.59	5.59	5.59	4.57	4.47	7.76	7.95	7.95	7.95	5.92	3.70	4.93	4.93	4.93	4.93	6.01	4.5
5.0	1.06	2.35	2.78	2.78	2.78	1.49	1.43	3.27	3.94	3.94	3.94	1.94	1.79	3.23	3.23	3.23	3.23	2.55	2.32	4.46	4.52	4.52	4.52	3.33	3.01	6.03	6.44	6.44	6.44	4.31	2.68	3.99	3.99	3.99	3.99	4.38	5.0
5.5	0.75	1.79	2.30	2.30	2.30	1.12	1.03	2.44	3.20	3.26	3.26	1.46	1.26	2.60	2.67	2.67	2.67	1.92	1.61	3.48	3.74	3.74	3.74	2.50	2.11	4.74	5.32	5.32	5.32	3.24	1.92	3.22	3.30	3.30	3.30	3.29	5.5
6.0	0.55	1.36	1.88	1.93	1.93	0.86	0.76	1.83	2.61	2.74	2.74	1.12	0.91	2.09	2.24	2.24	2.24	1.48	1.16	2.74	3.14	3.14	3.14	1.93	1.53	3.77	4.47	4.47	4.47	2.50	1.41	2.61	2.77	2.77	2.77	2.54	6.0
6.5	0.41	1.02	1.54	1.64	1.64	0.68	0.59	1.37	2.14	2.33	2.33	0.88	0.67	1.68	1.91	1.91	1.91	1.16	0.86	2.16	2.68	2.68	2.68	1.52	1.14	2.98	3.79	3.81	3.81	1.96	1.06	2.13	2.36	2.36	2.36	1.99	6.5
7.0	0.32	0.78	1.28	1.42	1.42	0.54	0.46	1.06	1.78	2.00	2.01	0.71	0.50	1.32	1.65	1.65	1.65	0.93	0.65	1.70	2.31	2.31	2.31	1.21	0.88	2.34	3.19	3.28	3.28	1.57	0.82	1.74	2.04	2.04	2.04	1.60	7.0
7.5	0.25	0.61	1.06	1.23	1.23	0.44	0.37	0.82	1.48	1.70	1.75	0.57	0.39	1.04	1.44	1.44	1.44	0.76	0.51	1.36	2.00	2.01	2.01	0.99	0.69	1.84	2.70	2.86	2.86	1.28	0.63	1.43	1.78	1.78	1.78	1.30	7.5
8.0	0.20	0.48	0.88	1.05	1.09	0.36	0.30	0.65	1.22	1.46	1.54	0.47	0.30	0.82	1.25	1.26	1.26	0.62	0.40	1.09	1.70	1.77	1.77	0.81	0.55	1.43	2.30	2.51	2.51	1.05	0.49	1.17	1.55	1.56	1.56	1.07	8.0
8.5			0.74	0.91	0.96	0.30	0.25	0.52	1.01	1.26	1.36	0.39	0.24	0.66	1.08	1.12	1.12	0.52	0.32	0.87	1.45	1.57	1.57	0.68	0.44	1.14	1.97	2.22	2.23	0.88	0.39	0.97	1.34	1.38	1.38	0.89	8.5
9.0			0.62	0.78	0.86	0.25			0.83	1.09	1.22	0.33	0.20	0.54	0.94	1.00	1.00	0.44	0.26	0.70	1.24	1.40	1.40	0.57	0.36	0.91	1.70	1.94	1.99	0.74	0.31	0.81	1.17	1.23	1.23	0.75	9.0
9.5			0.51	0.68	0.77	0.22			0.69	0.95	1.09	0.28			0.82	0.90	0.90	0.37	0.22	0.57	1.06	1.25	1.25	0.49	0.30	0.74	1.46	1.71	1.78	0.63	0.25	0.67	1.02	1.11	1.11	0.64	9.5
10.0				0.59	0.69	0.19			0.57	0.82	0.99	0.24			0.70	0.81	0.81	0.32			0.90	1.12	1.13	0.42	0.26	0.61	1.25	1.51	1.61	0.54	0.21	0.56	0.89	1.00	1.00	0.55	10.0
10.5				0.51	0.63	0.16			0.48	0.71	0.89	0.21			0.60	0.73	0.73	0.28			0.77	0.99	1.03	0.36	0.22	0.51	1.07	1.34	1.46	0.47	0.17	0.47	0.78	0.90	0.91	0.47	10.5
11.0					0.57	0.14				0.61	0.81	0.18			0.51	0.65	0.67	0.24			0.66	0.87	0.93	0.31			0.91	1.19	1.33	0.41			0.69	0.81	0.83	0.41	11.0
11.5										0.53	0.75	0.16				0.58	0.61	0.21			0.57	0.77	0.86	0.27			0.78	1.06	1.22	0.35			0.60	0.73	0.76	0.36	11.5
12.0																0.52	0.56	0.18			0.50	0.69	0.79	0.24			0.66	0.95	1.12	0.31			0.53	0.65	0.69	0.32	12.0
12.5																0.47	0.52	0.16				0.61	0.72	0.21			0.56	0.85	1.03	0.28			0.47	0.59	0.64	0.28	12.5
13.0																	0.48	0.15				0.54	0.67	0.19				0.75	0.95	0.25				0.53	0.59	0.25	13.0
13.5																						0.48	0.62	0.17				0.67	0.88	0.22				0.48	0.55	0.22	13.5
14.0																												0.59	0.82	0.20					0.51	0.20	14.0
14.5																																			0.47	0.18	14.5

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	250/19						250/24						300/24(90)						300/24(100)						300/30(90)						300/30(100)						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	15.54	15.54	15.54	15.54	15.54	26.57	22.58	22.58	22.58	22.58	22.58	35.60	27.70	27.70	27.70	27.70	27.70	55.31	28.03	28.03	28.03	28.03	28.03	58.08	37.07	37.07	37.07	37.07	37.07	69.59	37.56	37.56	37.56	37.56	37.56	73.39	3.0
3.5	10.86	11.52	11.52	11.52	11.52	16.74	15.10	16.59	16.59	16.59	16.59	22.42	20.35	20.35	20.35	20.35	20.35	34.83	20.59	20.59	20.59	20.59	20.59	36.58	26.09	27.23	27.23	27.24	27.23	43.82	27.59	27.59	27.59	27.59	27.59	46.22	3.5
4.0	7.60	8.82	8.82	8.82	8.82	11.21	10.25	12.70	12.70	12.70	12.70	15.02	13.89	15.58	15.58	15.58	15.58	23.33	15.47	15.77	15.77	15.77	15.77	24.50	17.90	20.85	20.85	20.85	20.85	29.36	19.78	21.13	21.13	21.13	21.13	30.96	4.0
4.5	5.08	6.97	6.97	6.97	6.97	7.87	6.97	10.03	10.03	10.03	10.03	10.55	9.52	12.31	12.31	12.31	12.31	16.39	11.01	12.46	12.46	12.46	12.46	17.21	12.11	16.48	16.47	16.47	16.48	20.62	14.05	16.69	16.69	16.69	16.69	21.75	4.5
5.0	3.50	5.64	5.64	5.64	5.64	5.74	4.75	8.13	8.13	8.13	8.13	7.69	6.62	9.97	9.97	9.97	9.97	11.95	7.73	10.09	10.09	10.09	10.09	12.55	8.17	13.35	13.35	13.35	13.34	15.03	9.97	13.52	13.52	13.52	13.52	15.85	5.0
5.5	2.54	4.66	4.66	4.66	4.66	4.31	3.37	6.71	6.72	6.72	6.72	5.78	4.65	8.24	8.24	8.24	8.24	8.98	5.54	8.34	8.34	8.34	8.34	9.43	5.79	11.03	11.03	11.03	11.03	11.29	7.13	11.17	11.17	11.18	11.18	11.91	5.5
6.0	1.86	3.79	3.92	3.92	3.92	3.32	2.45	5.34	5.65	5.65	5.64	4.45	3.39	6.93	6.93	6.93	6.93	6.91	4.11	7.01	7.01	7.01	7.01	7.26	4.20	9.20	9.27	9.27	9.27	8.70	5.15	9.39	9.39	9.39	9.39	9.17	6.0
6.5	1.39	3.09	3.34	3.34	3.34	2.61	1.81	4.28	4.81	4.81	4.81	3.50	2.53	5.80	5.90	5.90	5.90	5.44	3.09	5.97	5.97	5.97	5.97	5.71	3.10	7.43	7.90	7.90	7.90	6.84	3.84	8.00	8.00	8.00	8.00	7.22	6.5
7.0	1.05	2.54	2.88	2.88	2.88	2.09	1.37	3.45	4.15	4.15	4.15	2.80	1.91	4.68	5.09	5.09	5.09	4.35	2.35	5.13	5.15	5.15	5.15	4.57	2.35	6.02	6.81	6.81	6.81	5.48	2.95	6.62	6.90	6.90	6.90	5.78	7.0
7.5	0.81	2.04	2.51	2.51	2.51	1.70	1.06	2.78	3.61	3.61	3.61	2.28	1.47	3.78	4.43	4.43	4.43	3.54	1.83	4.29	4.49	4.49	4.48	3.72	1.82	4.89	5.93	5.93	5.93	4.45	2.29	5.47	6.01	6.01	6.01	4.70	7.5
8.0	0.63	1.62	2.20	2.20	2.20	1.40	0.84	2.24	3.18	3.18	3.18	1.88	1.15	3.06	3.90	3.90	3.90	2.92	1.45	3.54	3.94	3.94	3.94	3.06	1.43	3.92	5.21	5.21	5.21	3.67	1.80	4.52	5.28	5.28	5.28	3.87	8.0
8.5	0.50	1.30	1.95	1.95	1.95	1.17	0.67	1.79	2.79	2.81	2.81	1.57	0.92	2.48	3.45	3.45	3.45	2.43	1.16	2.91	3.49	3.49	3.49	2.55	1.15	3.12	4.62	4.62	4.62	3.06	1.44	3.74	4.68	4.68	4.68	3.23	8.5
9.0	0.41	1.06	1.70	1.74	1.74	0.98	0.55	1.45	2.40	2.51	2.51	1.32	0.74	2.03	3.08	3.08	3.08	2.05	0.93	2.38	3.11	3.11	3.11	2.15	0.93	2.52	4.12	4.12	4.12	2.58	1.16	3.08	4.17	4.17	4.17	2.72	9.0
9.5	0.33	0.88	1.48	1.56	1.56	0.84	0.45	1.19	2.07	2.25	2.25	1.12	0.61	1.66	2.76	2.76	2.76	1.74	0.76	1.96	2.80	2.80	2.80	1.83	0.77	2.06	3.58	3.70	3.70	2.19	0.95	2.56	3.75	3.75	3.75	2.31	9.5
10.0	0.27	0.74	1.30	1.41	1.41	0.72	0.37	0.99	1.80	2.03	2.03	0.96	0.50	1.37	2.43	2.49	2.49	1.49	0.63	1.64	2.52	2.52	2.52	1.57	0.64	1.71	3.12	3.34	3.34	1.88	0.79	2.12	3.38	3.38	3.38	1.98	10.0
10.5	0.23	0.62	1.14	1.28	1.28	0.62	0.32	0.82	1.56	1.84	1.84	0.83	0.42	1.14	2.11	2.26	2.26	1.29	0.53	1.39	2.29	2.29	2.29	1.36	0.54	1.43	2.72	3.03	3.03	1.62	0.66	1.76	2.98	3.07	3.07	1.71	10.5
11.0	0.19	0.52	1.00	1.17	1.17	0.54	0.27	0.69	1.35	1.68	1.68	0.72	0.36	0.96	1.83	2.06	2.06	1.12	0.44	1.18	2.05	2.09	2.09	1.18	0.46	1.19	2.37	2.76	2.76	1.41	0.56	1.48	2.62	2.79	2.79	1.49	11.0
11.5			0.86	1.05	1.07	0.47	0.23	0.58	1.17	1.50	1.54	0.63	0.30	0.82	1.60	1.89	1.89	0.98	0.38	1.00	1.82	1.91	1.91	1.03	0.39	1.01	2.07	2.52	2.52	1.24	0.48	1.25	2.31	2.56	2.56	1.30	11.5
12.0			0.74	0.95	0.98	0.42			1.02	1.34	1.41	0.56	0.26	0.69	1.39	1.73	1.73	0.86	0.32	0.86	1.60	1.75	1.75	0.91	0.34	0.86	1.79	2.30	2.32	1.09	0.41	1.07	2.04	2.35	2.35	1.15	12.0
12.5			0.64	0.86	0.90	0.37			0.88	1.20	1.30	0.49	0.23	0.59	1.21	1.60	1.60	0.76	0.28	0.73	1.41	1.61	1.61	0.80	0.30	0.73	1.54	2.07	2.14	0.96	0.36	0.92	1.80	2.16	2.16	1.02	12.5
13.0			0.55	0.78	0.83	0.33			0.76	1.07	1.20	0.44			1.05	1.45	1.48	0.68	0.24	0.63	1.24	1.49	1.49	0.71	0.26	0.63	1.33	1.86	1.97	0.86	0.31	0.80	1.59	2.00	2.00	0.90	13.0
13.5				0.70	0.77	0.29			0.66	0.96	1.12	0.39			0.92	1.31	1.37	0.61	0.21	0.55	1.09	1.38	1.38	0.64	0.23	0.55	1.15	1.68	1.83	0.76	0.28	0.69	1.40	1.83	1.86	0.81	13.5
14.0				0.64	0.72	0.26			0.58	0.87	1.04	0.35			0.81	1.17	1.27	0.54			0.95	1.28	1.29	0.57			1.01	1.51	1.70	0.68	0.24	0.60	1.24	1.66	1.73	0.72	14.0
14.5				0.57	0.67	0.24			0.51	0.78	0.97	0.32			0.71	1.06	1.19	0.49			0.84	1.18	1.20	0.51			0.88	1.36	1.59	0.62			1.10	1.51	1.61	0.65	14.5
15.0				0.51	0.63	0.21				0.70	0.90	0.28			0.62	0.95	1.11	0.44			0.75	1.08	1.12	0.46			0.78	1.23	1.48	0.56			0.97	1.37	1.50	0.59	15.0
15.5					0.59	0.19				0.63	0.85	0.26			0.55	0.85	1.04	0.40			0.67	0.98	1.05	0.42			0.70	1.11	1.39	0.50			0.85	1.25	1.41	0.53	15.5
16.0					0.55	0.18				0.56	0.79	0.23				0.77	0.97	0.36			0.60	0.89	0.99	0.38			0.62	0.99	1.30	0.46			0.76	1.14	1.32	0.48	16.0
16.5										0.51	0.75	0.21				0.69	0.92	0.33			0.54	0.81	0.93	0.35			0.55	0.88	1.23	0.42			0.68	1.03	1.24	0.44	16.5
17.0																0.62	0.86	0.30				0.73	0.87	0.32				0.79	1.15	0.38			0.60	0.94	1.17	0.40	17.0
17.5																0.56	0.81	0.28				0.66	0.82	0.29				0.70	1.09	0.35				0.85	1.10	0.37	17.5
18.0																	0.77	0.26				0.60	0.78	0.27				0.63	1.03	0.32				0.78	1.04	0.34	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **SINGLE SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	350/24						350/30						400/24						400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	23.92	23.92	23.92	23.92	23.92	84.52	44.56	44.56	44.56	44.56	44.56	107.50	20.81	20.81	20.81	20.81	20.81	118.60	38.76	38.76	38.76	38.76	38.76	149.00	3.0
3.5	20.50	20.50	20.50	20.50	20.50	53.23	35.47	35.47	35.47	35.47	35.46	67.72	17.84	17.84	17.84	17.84	17.84	74.68	33.22	33.22	33.22	33.22	33.22	93.85	3.5
4.0	17.94	17.94	17.94	17.94	17.94	35.66	26.10	27.15	27.15	27.15	27.15	45.37	15.61	15.61	15.61	15.61	15.61	50.03	29.07	29.07	29.07	29.07	29.07	62.87	4.0
4.5	13.91	15.77	15.77	15.77	15.77	25.04	18.70	21.45	21.45	21.45	21.45	31.86	13.87	13.87	13.88	13.87	13.87	35.14	23.78	25.84	25.84	25.84	25.84	44.16	4.5
5.0	10.25	12.77	12.77	12.77	12.77	18.26	13.41	17.38	17.38	17.38	17.38	23.23	12.49	12.49	12.49	12.49	12.49	25.61	17.16	21.01	21.01	21.01	21.01	32.19	5.0
5.5	7.33	10.56	10.56	10.56	10.56	13.72	9.47	14.36	14.36	14.36	14.36	17.45	9.64	11.35	11.35	11.35	11.35	19.24	12.19	17.37	17.37	17.37	17.36	24.18	5.5
6.0	5.45	8.87	8.87	8.87	8.87	10.56	6.92	12.07	12.07	12.07	12.07	13.44	7.18	10.41	10.41	10.41	10.41	14.82	8.71	14.59	14.59	14.59	14.59	18.63	6.0
6.5	4.07	7.50	7.56	7.56	7.56	8.31	5.12	10.28	10.28	10.28	10.28	10.57	5.26	9.20	9.28	9.28	9.28	11.66	6.39	12.43	12.43	12.43	12.43	14.65	6.5
7.0	3.11	6.26	6.52	6.52	6.52	6.65	3.86	8.73	8.87	8.87	8.87	8.47	3.95	7.69	8.01	8.01	8.01	9.34	4.80	10.59	10.72	10.72	10.72	11.73	7.0
7.5	2.38	5.27	5.68	5.68	5.68	5.41	2.96	7.24	7.72	7.72	7.72	6.88	3.02	6.47	6.97	6.97	6.97	7.59	3.68	9.01	9.34	9.34	9.34	9.54	7.5
8.0	1.86	4.45	4.99	4.99	4.99	4.46	2.32	6.02	6.79	6.79	6.79	5.67	2.35	5.47	6.13	6.13	6.13	6.25	2.88	7.66	8.21	8.21	8.21	7.86	8.0
8.5	1.48	3.77	4.42	4.42	4.42	3.72	1.85	5.01	6.01	6.01	6.01	4.73	1.86	4.64	5.43	5.43	5.43	5.21	2.28	6.40	7.27	7.27	7.27	6.55	8.5
9.0	1.19	3.17	3.94	3.94	3.94	3.13	1.49	4.16	5.36	5.36	5.36	3.98	1.50	3.94	4.84	4.84	4.84	4.39	1.84	5.34	6.49	6.49	6.49	5.52	9.0
9.5	0.97	2.61	3.54	3.54	3.54	2.66	1.22	3.42	4.81	4.81	4.81	3.39	1.22	3.34	4.35	4.35	4.35	3.74	1.50	4.39	5.82	5.82	5.82	4.69	9.5
10.0	0.80	2.18	3.16	3.19	3.19	2.28	1.01	2.83	4.35	4.34	4.35	2.90	1.00	2.88	3.87	3.92	3.92	3.20	1.24	3.65	5.25	5.25	5.25	4.02	10.0
10.5	0.66	1.84	2.80	2.90	2.90	1.97	0.84	2.36	3.92	3.94	3.94	2.51	0.83	2.45	3.44	3.56	3.56	2.77	1.03	3.01	4.73	4.77	4.77	3.48	10.5
11.0	0.56	1.56	2.50	2.64	2.64	1.72	0.71	2.00	3.46	3.59	3.59	2.18	0.70	2.06	3.07	3.24	3.24	2.41	0.87	2.51	4.25	4.34	4.34	3.02	11.0
11.5	0.47	1.32	2.23	2.42	2.42	1.50	0.60	1.68	3.07	3.29	3.29	1.91	0.59	1.73	2.74	2.97	2.97	2.11	0.73	2.11	3.82	3.97	3.97	2.65	11.5
12.0	0.40	1.13	2.00	2.22	2.22	1.32	0.52	1.43	2.72	3.02	3.02	1.68	0.50	1.46	2.46	2.72	2.72	1.85	0.63	1.78	3.45	3.65	3.65	2.33	12.0
12.5	0.35	0.97	1.79	2.04	2.04	1.17	0.45	1.22	2.41	2.78	2.78	1.49	0.43	1.24	2.20	2.51	2.51	1.64	0.54	1.52	3.07	3.36	3.36	2.06	12.5
13.0	0.30	0.84	1.61	1.88	1.89	1.04	0.39	1.05	2.13	2.57	2.57	1.32	0.37	1.07	1.98	2.30	2.32	1.46	0.47	1.31	2.73	3.11	3.11	1.83	13.0
13.5	0.26	0.72	1.44	1.71	1.75	0.93	0.34	0.90	1.89	2.38	2.38	1.18	0.32	0.92	1.78	2.10	2.15	1.30	0.41	1.13	2.43	2.88	2.88	1.64	13.5
14.0	0.23	0.63	1.27	1.57	1.63	0.83	0.30	0.79	1.67	2.19	2.22	1.06	0.28	0.80	1.59	1.93	2.00	1.17	0.36	0.98	2.14	2.65	2.68	1.47	14.0
14.5	0.20	0.55	1.12	1.44	1.52	0.75	0.27	0.69	1.47	1.99	2.07	0.95	0.25	0.69	1.43	1.77	1.87	1.05	0.32	0.85	1.88	2.44	2.50	1.32	14.5
15.0			0.99	1.32	1.42	0.68	0.24	0.60	1.29	1.82	1.93	0.86	0.22	0.61	1.30	1.62	1.74	0.95	0.28	0.75	1.67	2.26	2.34	1.19	15.0
15.5			0.89	1.21	1.33	0.61			1.14	1.66	1.81	0.78			1.17	1.49	1.63	0.86	0.25	0.66	1.47	2.09	2.19	1.08	15.5
16.0			0.79	1.12	1.25	0.56			1.02	1.51	1.70	0.71			1.05	1.37	1.53	0.78			1.30	1.92	2.05	0.98	16.0
16.5			0.71	1.03	1.17	0.51			0.91	1.38	1.60	0.65			0.94	1.26	1.44	0.71			1.15	1.76	1.93	0.90	16.5
17.0			0.64	0.94	1.11	0.46			0.82	1.26	1.50	0.59			0.84	1.16	1.36	0.65			1.02	1.61	1.82	0.82	17.0
17.5			0.57	0.87	1.04	0.43			0.73	1.15	1.42	0.54			0.75	1.07	1.28	0.60			0.91	1.47	1.72	0.75	17.5
18.0				0.80	0.99	0.39			0.65	1.05	1.34	0.50			0.67	0.99	1.21	0.55			0.82	1.34	1.62	0.69	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	100/10						100/12						100/16						100/19						150/12						150/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	2.23	2.23	2.23	2.23	2.23	2.33	2.64	2.73	2.73	2.73	2.73	2.83	3.76	4.06	4.06	4.06	4.06	3.83	4.72	5.11	5.11	5.11	5.11	4.58	3.82	3.82	3.82	3.82	3.82	8.40	6.33	6.33	6.33	6.33	6.33	10.86	3.0
3.5	1.51	1.64	1.64	1.64	1.64	1.46	1.79	2.00	2.00	2.00	2.00	1.79	2.58	2.99	2.99	2.99	2.99	2.41	3.20	3.76	3.76	3.76	3.76	2.89	3.02	3.02	3.02	3.02	3.02	5.29	4.73	4.73	4.73	4.73	4.73	6.84	3.5
4.0	1.04	1.25	1.25	1.25	1.25	0.98	1.25	1.53	1.53	1.53	1.53	1.20	1.82	2.22	2.29	2.29	2.29	1.61	2.23	2.79	2.87	2.88	2.88	1.93	2.45	2.45	2.45	2.45	2.45	3.55	3.60	3.62	3.62	3.62	3.62	4.58	4.0
4.5	0.71	0.99	0.99	0.99	0.99	0.69	0.87	1.18	1.21	1.21	1.21	0.84	1.30	1.69	1.76	1.81	1.81	1.13	1.58	2.12	2.20	2.27	2.27	1.36	1.99	2.02	2.02	2.01	2.02	2.49	2.66	2.86	2.86	2.86	2.86	3.22	4.5
5.0	0.49	0.77	0.80	0.80	0.80	0.50	0.62	0.91	0.96	0.98	0.98	0.61	0.91	1.31	1.37	1.46	1.46	0.83	1.14	1.64	1.73	1.84	1.84	0.99	1.52	1.68	1.68	1.68	1.68	1.82	1.98	2.32	2.32	2.32	2.32	2.35	5.0
5.5	0.35	0.60	0.65	0.66	0.66	0.38	0.46	0.71	0.76	0.81	0.81	0.46	0.66	1.03	1.09	1.21	1.21	0.62	0.83	1.28	1.37	1.52	1.52	0.74	1.14	1.39	1.39	1.39	1.39	1.36	1.48	1.92	1.92	1.92	1.92	1.76	5.5
6.0	0.27	0.46	0.51	0.56	0.56	0.29	0.34	0.56	0.61	0.68	0.68	0.35	0.49	0.82	0.88	1.01	1.02	0.48	0.62	1.01	1.09	1.26	1.28	0.57	0.85	1.17	1.17	1.17	1.17	1.05	1.11	1.61	1.61	1.61	1.61	1.36	6.0
6.5				0.47	0.47	0.23	0.26	0.44	0.49	0.58	0.58	0.28	0.37	0.65	0.71	0.84	0.87	0.38	0.47	0.80	0.88	1.05	1.09	0.45	0.64	0.98	0.99	0.99	0.99	0.83	0.85	1.33	1.37	1.37	1.37	1.07	6.5
7.0										0.49	0.50	0.22	0.29	0.51	0.58	0.70	0.75	0.30	0.37	0.63	0.71	0.88	0.94	0.36	0.50	0.82	0.86	0.86	0.86	0.66	0.66	1.09	1.17	1.18	1.18	0.86	7.0
7.5											0.44	0.18			0.47	0.60	0.65	0.24	0.30	0.51	0.58	0.75	0.82	0.29	0.39	0.68	0.73	0.75	0.75	0.54	0.53	0.90	0.98	1.03	1.03	0.70	7.5
8.0																0.51	0.57	0.20			0.47	0.64	0.72	0.24	0.31	0.57	0.62	0.66	0.66	0.44	0.42	0.74	0.82	0.91	0.91	0.57	8.0
8.5																0.44	0.51	0.17				0.54	0.64	0.20	0.26	0.47	0.53	0.58	0.58	0.37	0.34	0.61	0.69	0.80	0.80	0.48	8.5
9.0																	0.45	0.14				0.46	0.57	0.17			0.45	0.52	0.52	0.31	0.28	0.50	0.58	0.72	0.72	0.40	9.0
9.5																							0.51	0.14				0.46	0.46	0.26			0.49	0.64	0.64	0.34	9.5
10.0																							0.46	0.12										0.57	0.58	0.29	10.0
10.5																																		0.50	0.53	0.25	10.5
11.0																																			0.48	0.22	11.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

PLAIN CEE LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	150/19						150/24						200/15						200/19						200/24						250/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	9.00	9.00	9.00	9.00	9.00	13.88	12.77	12.77	12.77	12.77	12.77	18.08	6.58	6.58	6.58	6.58	6.58	23.83	11.94	11.94	11.94	11.94	11.94	31.11							5.68	5.68	5.68	5.68	5.68	40.91	3.0
3.5	6.59	6.61	6.61	6.61	6.61	8.74	9.10	9.38	9.38	9.38	9.38	11.39	5.37	5.37	5.37	5.35	5.37	15.00	9.48	9.48	9.48	9.46	9.48	19.59							4.74	4.74	4.74	4.72	4.74	25.76	3.5
4.0	4.76	5.06	5.06	5.06	5.06	5.86	6.61	7.18	7.18	7.18	7.18	7.63	4.46	4.46	4.46	4.46	4.46	10.05	7.69	7.69	7.69	7.69	7.69	13.12	11.60	11.73	11.73	11.73	11.73	16.99	4.03	4.03	4.03	4.03	4.03	17.26	4.0
4.5	3.53	4.00	4.00	4.00	4.00	4.11	4.91	5.68	5.68	5.68	5.68	5.36	3.76	3.76	3.76	3.76	3.76	7.06	6.35	6.35	6.35	6.34	6.35	9.22	8.78	9.27	9.27	9.27	9.27	11.93	3.48	3.48	3.48	3.47	3.48	12.12	4.5
5.0	2.65	3.24	3.24	3.24	3.24	3.00	3.65	4.59	4.60	4.60	4.60	3.91	3.21	3.21	3.21	3.21	3.21	5.15	5.01	5.28	5.28	5.28	5.28	6.72	6.78	7.51	7.51	7.51	7.51	8.70	3.03	3.04	3.03	3.04	3.04	8.84	5.0
5.5	2.01	2.66	2.68	2.68	2.68	2.25	2.73	3.68	3.80	3.80	3.80	2.94	2.77	2.77	2.77	2.77	2.77	3.87	3.88	4.36	4.36	4.36	4.36	5.05	5.31	6.21	6.21	6.21	6.21	6.54	2.67	2.67	2.67	2.67	2.67	6.64	5.5
6.0	1.52	2.15	2.25	2.25	2.25	1.74	2.05	2.99	3.13	3.19	3.19	2.26	2.36	2.41	2.41	2.41	2.41	2.98	3.03	3.67	3.67	3.67	3.67	3.89	4.18	5.22	5.21	5.21	5.21	5.04	2.37	2.37	2.37	2.37	2.37	5.11	6.0
6.5	1.15	1.76	1.87	1.92	1.92	1.37	1.56	2.45	2.59	2.72	2.72	1.78	1.86	2.12	2.12	2.12	2.12	2.34	2.37	3.12	3.12	3.12	3.12	3.06	3.26	4.35	4.44	4.44	4.44	3.96	2.11	2.11	2.11	2.11	2.11	4.02	6.5
7.0	0.89	1.45	1.55	1.65	1.65	1.09	1.22	2.03	2.16	2.35	2.35	1.42	1.45	1.87	1.87	1.87	1.87	1.88	1.87	2.69	2.69	2.69	2.69	2.45	2.55	3.65	3.81	3.83	3.83	3.17	1.90	1.90	1.90	1.90	1.90	3.22	7.0
7.5	0.70	1.20	1.30	1.44	1.44	0.89	0.96	1.67	1.82	2.04	2.04	1.16	1.14	1.66	1.66	1.66	1.66	1.53	1.50	2.28	2.35	2.35	2.35	1.99	1.99	3.08	3.24	3.34	3.34	2.58	1.59	1.71	1.71	1.71	1.71	2.62	7.5
8.0	0.56	1.00	1.10	1.27	1.27	0.73	0.77	1.38	1.53	1.79	1.80	0.95	0.91	1.43	1.47	1.47	1.47	1.26	1.21	1.92	2.06	2.06	2.06	1.64	1.57	2.62	2.78	2.93	2.93	2.12	1.31	1.55	1.55	1.55	1.55	2.16	8.0
8.5	0.46	0.83	0.93	1.12	1.12	0.61	0.63	1.14	1.29	1.56	1.59	0.80	0.74	1.24	1.30	1.30	1.30	1.05	0.96	1.63	1.77	1.83	1.83	1.37	1.26	2.24	2.39	2.60	2.60	1.77	1.09	1.41	1.41	1.41	1.41	1.80	8.5
9.0	0.37	0.69	0.78	0.98	1.00	0.51	0.52	0.94	1.08	1.36	1.42	0.67	0.60	1.07	1.13	1.16	1.16	0.88	0.78	1.39	1.52	1.63	1.63	1.15	1.02	1.92	2.07	2.32	2.32	1.49	0.90	1.29	1.29	1.29	1.29	1.52	9.0
9.5	0.31	0.57	0.66	0.86	0.90	0.44	0.43	0.78	0.91	1.20	1.27	0.57	0.49	0.92	0.99	1.04	1.04	0.75	0.64	1.18	1.31	1.46	1.46	0.98	0.84	1.64	1.80	2.08	2.08	1.27	0.74	1.16	1.18	1.18	1.18	1.29	9.5
10.0	0.26	0.48	0.56	0.76	0.81	0.37	0.37	0.65	0.76	1.05	1.15	0.49	0.41	0.78	0.87	0.94	0.94	0.64	0.53	1.00	1.14	1.32	1.32	0.84	0.70	1.39	1.57	1.86	1.88	1.09	0.62	1.01	1.08	1.08	1.08	1.11	10.0
10.5			0.48	0.67	0.73	0.32	0.31	0.55	0.64	0.93	1.04	0.42	0.34	0.66	0.76	0.85	0.85	0.56	0.44	0.86	0.98	1.20	1.20	0.73	0.59	1.18	1.36	1.66	1.70	0.94	0.52	0.88	0.96	1.00	1.00	0.95	10.5
11.0				0.59	0.67	0.28			0.55	0.83	0.95	0.37	0.29	0.56	0.66	0.78	0.78	0.48	0.37	0.74	0.85	1.09	1.09	0.63	0.50	1.01	1.18	1.49	1.55	0.82	0.44	0.77	0.85	0.92	0.92	0.83	11.0
11.5				0.52	0.61	0.25				0.73	0.87	0.32	0.24	0.48	0.57	0.71	0.71	0.42	0.32	0.64	0.73	0.99	1.00	0.55	0.43	0.85	1.02	1.34	1.42	0.72	0.38	0.68	0.75	0.85	0.86	0.73	11.5
12.0				0.47	0.56	0.22				0.65	0.80	0.28			0.49	0.65	0.65	0.37	0.27	0.55	0.64	0.89	0.92	0.49	0.37	0.73	0.88	1.20	1.30	0.63	0.33	0.59	0.67	0.79	0.79	0.64	12.0
12.5					0.52	0.19				0.57	0.74	0.25				0.59	0.60	0.33			0.56	0.80	0.84	0.43	0.32	0.62	0.76	1.09	1.20	0.56	0.28	0.52	0.59	0.73	0.74	0.57	12.5
13.0					0.48	0.17				0.50	0.68	0.22				0.54	0.56	0.29			0.49	0.72	0.78	0.38	0.28	0.54	0.66	0.98	1.11	0.50			0.52	0.67	0.69	0.50	13.0
13.5											0.63	0.20				0.49	0.52	0.26				0.65	0.72	0.34			0.57	0.89	1.03	0.44			0.47	0.61	0.64	0.45	13.5
14.0											0.59	0.18					0.48	0.23				0.58	0.67	0.31				0.81	0.96	0.40				0.56	0.59	0.40	14.0
14.5											0.55	0.16										0.53	0.63	0.28				0.73	0.89	0.36				0.51	0.55	0.36	14.5
15.0																						0.48	0.59	0.25				0.66	0.83	0.32				0.47	0.52	0.33	15.0
15.5																							0.55	0.23				0.60	0.78	0.29					0.48	0.30	15.5
16.0																							0.52	0.21				0.54	0.73	0.27							16.0
16.5																							0.48	0.19					0.69	0.24							16.5
17.0																													0.65	0.22							17.0
17.5																													0.61	0.20							17.5
18.0																													0.58	0.19							18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	250/19						250/24						300/24(90)						300/24(100)						300/30(90)						300/30(100)						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	11.00	11.00	11.00	11.00	11.00	53.59							19.96	19.96	19.96	19.96	19.96	111.60	20.00	20.00	20.00	20.00	20.00	117.10													3.0
3.5	9.01	9.01	9.01	8.98	9.01	33.75							16.37	16.37	16.37	16.31	16.37	70.25	16.41	16.41	16.41	16.36	16.41	73.77													3.5
4.0	7.52	7.52	7.52	7.52	7.52	22.61							13.67	13.67	13.67	13.67	13.67	47.06	13.71	13.71	13.71	13.71	13.71	49.42													4.0
4.5	6.37	6.37	6.37	6.35	6.37	15.88							11.58	11.58	11.58	11.55	11.58	33.05	11.62	11.62	11.62	11.60	11.62	34.71													4.5
5.0	5.45	5.45	5.45	5.45	5.45	11.58							9.93	9.93	9.93	9.93	9.93	24.10	9.97	9.97	9.97	9.97	9.97	25.30													5.0
5.5	4.72	4.72	4.72	4.71	4.72	8.70	7.49	7.84	7.84	7.84	7.84	11.65	8.59	8.59	8.59	8.58	8.59	18.10	8.63	8.63	8.63	8.62	8.63	19.01	12.84	12.87	12.87	12.87	12.87	22.77	13.04	13.04	13.04	13.04	13.04	24.02	5.5
6.0	4.12	4.12	4.12	4.12	4.12	6.70	5.93	6.59	6.59	6.59	6.59	8.98	7.50	7.50	7.50	7.50	7.50	13.94	7.54	7.54	7.54	7.54	7.54	14.64	10.22	10.81	10.81	10.81	10.81	17.54	10.96	10.96	10.96	10.96	10.96	18.50	6.0
6.5	3.48	3.62	3.62	3.62	3.62	5.27	4.73	5.61	5.61	5.61	5.61	7.06	6.38	6.60	6.60	6.59	6.60	10.97	6.64	6.64	6.64	6.63	6.64	11.52	8.18	9.21	9.21	9.21	9.21	13.80	8.95	9.34	9.33	9.34	9.34	14.55	6.5
7.0	2.79	3.21	3.21	3.21	3.21	4.22	3.78	4.84	4.84	4.84	4.84	5.65	5.10	5.85	5.85	5.85	5.85	8.78	5.75	5.88	5.88	5.88	5.88	9.22	6.58	7.94	7.94	7.94	7.94	11.05	7.30	8.05	8.05	8.05	8.05	11.65	7.0
7.5	2.21	2.86	2.86	2.85	2.86	3.43	3.02	4.22	4.21	4.21	4.22	4.60	4.09	5.17	5.17	5.17	5.17	7.14	4.69	5.23	5.23	5.23	5.23	7.50	5.23	6.92	6.92	6.92	6.92	8.98	5.98	7.01	7.01	7.01	7.01	9.47	7.5
8.0	1.76	2.56	2.56	2.56	2.56	2.83	2.42	3.70	3.70	3.70	3.70	3.79	3.29	4.55	4.55	4.55	4.55	5.88	3.82	4.60	4.60	4.60	4.60	6.18	4.13	6.08	6.08	6.08	6.08	7.40	4.90	6.16	6.16	6.16	6.16	7.81	8.0
8.5	1.43	2.23	2.28	2.28	2.28	2.36	1.94	3.16	3.28	3.28	3.28	3.16	2.68	4.03	4.03	4.03	4.03	4.91	3.11	4.07	4.07	4.07	4.07	5.15	3.31	5.39	5.39	5.39	5.39	6.17	4.01	5.46	5.46	5.46	5.46	6.51	8.5
9.0	1.18	1.94	2.03	2.03	2.03	1.99	1.58	2.71	2.93	2.93	2.93	2.66	2.18	3.59	3.59	3.59	3.59	4.13	2.55	3.63	3.63	3.63	3.63	4.34	2.70	4.68	4.81	4.81	4.81	5.20	3.31	4.87	4.87	4.87	4.87	5.48	9.0
9.5	0.99	1.69	1.79	1.82	1.82	1.69	1.31	2.34	2.54	2.63	2.63	2.26	1.79	3.16	3.22	3.22	3.22	3.51	2.12	3.26	3.26	3.26	3.26	3.69	2.24	4.05	4.31	4.31	4.31	4.42	2.72	4.37	4.37	4.37	4.37	4.66	9.5
10.0	0.82	1.48	1.58	1.65	1.65	1.45	1.10	2.02	2.22	2.37	2.37	1.94	1.49	2.72	2.91	2.91	2.91	3.01	1.78	2.94	2.94	2.94	2.94	3.16	1.86	3.51	3.83	3.89	3.89	3.79	2.25	3.83	3.94	3.94	3.94	4.00	10.0
10.5	0.69	1.28	1.40	1.49	1.49	1.25	0.92	1.74	1.94	2.15	2.15	1.68	1.25	2.35	2.62	2.64	2.64	2.60	1.51	2.62	2.67	2.67	2.67	2.73	1.56	3.04	3.36	3.53	3.53	3.27	1.89	3.36	3.58	3.58	3.58	3.45	10.5
11.0	0.59	1.10	1.24	1.36	1.36	1.09	0.77	1.51	1.70	1.96	1.96	1.46	1.07	2.04	2.30	2.40	2.40	2.26	1.29	2.31	2.43	2.43	2.43	2.38	1.31	2.64	2.96	3.22	3.22	2.85	1.60	2.95	3.22	3.26	3.26	3.00	11.0
11.5	0.50	0.94	1.10	1.25	1.24	0.95	0.66	1.30	1.49	1.79	1.79	1.28	0.90	1.77	2.02	2.20	2.20	1.98	1.10	2.03	2.21	2.23	2.23	2.08	1.12	2.28	2.60	2.94	2.94	2.49	1.37	2.59	2.86	2.98	2.98	2.63	11.5
12.0	0.43	0.81	0.96	1.14	1.14	0.84	0.56	1.13	1.31	1.65	1.65	1.12	0.77	1.53	1.77	2.02	2.02	1.74	0.94	1.78	1.99	2.04	2.04	1.83	0.96	1.95	2.30	2.70	2.70	2.19	1.18	2.28	2.54	2.74	2.74	2.31	12.0
12.5	0.37	0.70	0.84	1.05	1.05	0.74	0.49	0.97	1.15	1.52	1.52	0.99	0.66	1.33	1.56	1.86	1.86	1.54	0.81	1.55	1.78	1.88	1.88	1.62	0.83	1.68	2.02	2.49	2.49	1.94	1.03	2.00	2.27	2.52	2.52	2.05	12.5
13.0	0.32	0.61	0.73	0.97	0.97	0.66	0.42	0.84	1.01	1.39	1.40	0.88	0.57	1.16	1.37	1.72	1.72	1.37	0.71	1.36	1.58	1.74	1.74	1.44	0.72	1.45	1.77	2.30	2.30	1.73	0.89	1.76	2.02	2.33	2.33	1.82	13.0
13.5	0.28	0.54	0.64	0.88	0.90	0.59	0.37	0.73	0.88	1.26	1.30	0.79	0.50	1.01	1.20	1.60	1.60	1.22	0.62	1.19	1.40	1.62	1.62	1.29	0.63	1.26	1.54	2.14	2.14	1.54	0.78	1.55	1.80	2.16	2.16	1.62	13.5
14.0			0.56	0.81	0.84	0.53	0.32	0.64	0.77	1.14	1.21	0.71	0.44	0.88	1.06	1.48	1.48	1.10	0.55	1.04	1.24	1.50	1.50	1.15	0.55	1.11	1.34	1.96	1.99	1.38	0.68	1.37	1.61	2.01	2.01	1.46	14.0
14.5			0.49	0.74	0.78	0.47	0.29	0.57	0.68	1.04	1.13	0.64	0.39	0.78	0.94	1.38	1.38	0.99	0.48	0.92	1.10	1.40	1.40	1.04	0.49	0.98	1.18	1.79	1.85	1.24	0.60	1.20	1.43	1.88	1.88	1.31	14.5
15.0				0.68	0.73	0.43			0.60	0.94	1.05	0.57	0.34	0.69	0.83	1.28	1.29	0.89	0.42	0.82	0.98	1.31	1.31	0.94	0.43	0.87	1.04	1.63	1.73	1.12	0.53	1.06	1.27	1.75	1.75	1.18	15.0
15.5				0.62	0.69	0.39			0.53	0.86	0.99	0.52	0.30	0.61	0.74	1.16	1.21	0.81	0.38	0.74	0.87	1.23	1.23	0.85	0.39	0.77	0.92	1.49	1.62	1.02	0.47	0.94	1.14	1.63	1.64	1.07	15.5
16.0				0.57	0.64	0.35				0.78	0.93	0.47	0.27	0.54	0.65	1.06	1.14	0.74	0.33	0.66	0.78	1.15	1.15	0.77	0.35	0.68	0.82	1.36	1.52	0.93	0.42	0.83	1.02	1.49	1.54	0.98	16.0
16.5				0.53	0.60	0.32				0.71	0.87	0.43			0.58	0.97	1.07	0.67	0.30	0.59	0.70	1.07	1.08	0.70	0.31	0.61	0.74	1.25	1.43	0.84	0.38	0.74	0.90	1.38	1.45	0.89	16.5
17.0					0.57	0.29				0.65	0.82	0.39			0.52	0.88	1.01	0.61	0.27	0.53	0.63	0.99	1.02	0.64			0.66	1.14	1.35	0.77	0.34	0.67	0.81	1.27	1.37	0.81	17.0
17.5					0.54	0.27				0.59	0.77	0.36				0.81	0.95	0.56			0.57	0.91	0.96	0.59			0.59	1.04	1.27	0.71	0.31	0.60	0.73	1.17	1.29	0.75	17.5
18.0					0.51	0.25				0.54	0.73	0.33				0.74	0.90	0.52			0.52	0.84	0.91	0.54				0.95	1.20	0.65	0.28	0.54	0.65	1.08	1.22	0.69	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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PLAIN CEE LOAD SPAN TABLES - **INTERNAL SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	350/24						350/30						400/24						400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0		18.24	18.24	18.24	18.24	170.40							16.46	16.46	16.46	16.46	16.46	239.10							3.0
3.5		15.25	15.25	15.18	15.25	107.30							13.91	13.91	13.91	13.85	13.91	150.60							3.5
4.0		12.98	12.98	12.98	12.98	71.91							11.98	11.98	11.98	11.98	11.98	100.90							4.0
4.5		11.21	11.21	11.17	11.21	50.51							10.47	10.47	10.47	10.44	10.47	70.86							4.5
5.0		9.78	9.78	9.78	9.78	36.82							9.25	9.25	9.25	9.25	9.25	51.66							5.0
5.5	8.61	8.61	8.61	8.59	8.61	27.66							8.25	8.25	8.25	8.23	8.25	38.81							5.5
6.0	7.64	7.64	7.64	7.64	7.64	21.31	12.53	12.53	12.53	12.53	12.53	27.11	7.41	7.41	7.41	7.41	7.41	29.89	12.51	12.52	12.52	12.52	12.52	37.57	6.0
6.5	6.82	6.82	6.82	6.81	6.82	16.76	11.06	11.06	11.06	11.05	11.06	21.32	6.69	6.69	6.69	6.68	6.69	23.51	11.18	11.19	11.18	11.17	11.18	29.55	6.5
7.0	6.12	6.12	6.12	6.12	6.12	13.42	9.63	9.83	9.83	9.83	9.83	17.07	6.08	6.08	6.08	6.08	6.08	18.83	10.05	10.05	10.05	10.05	10.05	23.66	7.0
7.5	5.52	5.52	5.52	5.52	5.52	10.91	7.92	8.79	8.79	8.78	8.79	13.88	5.55	5.54	5.54	5.54	5.55	15.31	9.08	9.08	9.08	9.07	9.08	19.23	7.5
8.0	4.94	5.01	5.01	5.00	5.01	8.99	6.52	7.90	7.90	7.90	7.90	11.44	5.08	5.08	5.08	5.08	5.08	12.61	8.23	8.23	8.24	8.24	8.23	15.85	8.0
8.5	4.10	4.55	4.55	4.55	4.55	7.49	5.36	7.02	7.02	7.02	7.02	9.54	4.67	4.67	4.67	4.66	4.67	10.51	6.82	7.50	7.50	7.49	7.50	13.21	8.5
9.0	3.36	4.16	4.16	4.16	4.16	6.31	4.37	6.26	6.26	6.26	6.26	8.03	4.29	4.30	4.31	4.30	4.30	8.86	5.57	6.86	6.86	6.86	6.86	11.13	9.0
9.5	2.79	3.81	3.81	3.81	3.81	5.37	3.59	5.62	5.62	5.62	5.62	6.83	3.67	3.98	3.98	3.98	3.98	7.53	4.58	6.29	6.29	6.28	6.29	9.47	9.5
10.0	2.35	3.51	3.51	3.51	3.51	4.60	2.99	5.04	5.07	5.07	5.07	5.86	3.09	3.69	3.69	3.69	3.69	6.46	3.77	5.79	5.79	5.79	5.79	8.12	10.0
10.5	1.99	3.20	3.23	3.23	3.23	3.98	2.52	4.43	4.60	4.60	4.60	5.06	2.58	3.43	3.43	3.43	3.43	5.58	3.13	5.34	5.34	5.34	5.34	7.01	10.5
11.0	1.68	2.84	2.99	2.99	2.99	3.46	2.12	3.90	4.19	4.19	4.19	4.40	2.16	3.20	3.20	3.20	3.20	4.85	2.62	4.86	4.94	4.94	4.94	6.10	11.0
11.5	1.43	2.53	2.70	2.77	2.77	3.03	1.79	3.44	3.77	3.83	3.83	3.85	1.83	2.99	2.98	2.98	2.99	4.25	2.22	4.36	4.57	4.58	4.58	5.34	11.5
12.0	1.23	2.26	2.43	2.58	2.58	2.66	1.53	3.03	3.36	3.52	3.52	3.39	1.55	2.77	2.79	2.79	2.79	3.74	1.89	3.86	4.14	4.26	4.26	4.70	12.0
12.5	1.06	2.02	2.19	2.38	2.38	2.36	1.31	2.67	3.00	3.24	3.24	3.00	1.33	2.48	2.62	2.62	2.62	3.31	1.62	3.41	3.76	3.92	3.92	4.16	12.5
13.0	0.91	1.80	1.98	2.21	2.20	2.10	1.14	2.36	2.68	3.00	3.00	2.67	1.15	2.22	2.43	2.46	2.46	2.94	1.40	3.02	3.41	3.63	3.63	3.69	13.0
13.5	0.79	1.57	1.79	2.04	2.04	1.87	0.99	2.07	2.40	2.78	2.78	2.38	0.99	1.98	2.20	2.31	2.31	2.62	1.21	2.64	3.06	3.36	3.36	3.30	13.5
14.0	0.69	1.38	1.61	1.90	1.90	1.68	0.86	1.81	2.15	2.59	2.59	2.13	0.87	1.77	1.99	2.18	2.18	2.35	1.06	2.32	2.74	3.13	3.13	2.96	14.0
14.5	0.61	1.22	1.46	1.77	1.77	1.51	0.76	1.59	1.92	2.41	2.41	1.92	0.76	1.61	1.80	2.05	2.06	2.12	0.93	2.05	2.46	2.92	2.92	2.66	14.5
15.0	0.53	1.09	1.30	1.64	1.66	1.36	0.67	1.41	1.71	2.25	2.25	1.74	0.67	1.44	1.63	1.94	1.94	1.91	0.82	1.80	2.19	2.72	2.72	2.40	15.0
15.5	0.47	0.97	1.15	1.52	1.55	1.24	0.60	1.25	1.52	2.11	2.11	1.57	0.59	1.29	1.47	1.84	1.84	1.73	0.73	1.58	1.94	2.55	2.55	2.18	15.5
16.0	0.42	0.87	1.03	1.41	1.46	1.12	0.53	1.12	1.35	1.97	1.98	1.43	0.52	1.15	1.34	1.73	1.74	1.58	0.65	1.40	1.73	2.38	2.39	1.98	16.0
16.5	0.38	0.78	0.93	1.30	1.37	1.03	0.48	1.00	1.20	1.81	1.86	1.30	0.47	1.02	1.22	1.60	1.65	1.44	0.58	1.24	1.55	2.21	2.25	1.81	16.5
17.0	0.34	0.70	0.84	1.21	1.29	0.94	0.43	0.89	1.08	1.67	1.75	1.19	0.42	0.90	1.11	1.49	1.57	1.31	0.52	1.11	1.38	2.06	2.12	1.65	17.0
17.5	0.30	0.63	0.76	1.12	1.22	0.86	0.39	0.80	0.97	1.54	1.66	1.09	0.38	0.81	1.00	1.38	1.49	1.21	0.47	0.99	1.23	1.93	2.00	1.51	17.5
18.0	0.27	0.57	0.69	1.05	1.15	0.79	0.35	0.71	0.88	1.43	1.56	1.00	0.34	0.72	0.90	1.29	1.41	1.11	0.42	0.89	1.10	1.80	1.89	1.39	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

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Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	100/10						100/12						100/16						100/19						150/12						150/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	1.91	1.91	1.91	1.91	1.91	2.77	2.34	2.34	2.34	2.34	2.34	3.38	3.39	3.48	3.48	3.48	3.48	4.56	4.24	4.38	4.38	4.38	4.38	5.47	3.48	3.48	3.48	3.48	3.48	10.02	5.52	5.52	5.52	5.52	5.52	12.95	3.0
3.5	1.40	1.40	1.40	1.40	1.40	1.75	1.66	1.72	1.72	1.72	1.72	2.13	2.37	2.56	2.56	2.56	2.56	2.87	2.98	3.22	3.22	3.22	3.22	3.44	2.73	2.73	2.73	2.73	2.73	6.31	4.06	4.06	4.06	4.06	4.06	8.15	3.5
4.0	1.01	1.07	1.07	1.07	1.07	1.17	1.20	1.31	1.31	1.31	1.31	1.43	1.72	1.96	1.96	1.96	1.96	1.92	2.15	2.47	2.47	2.47	2.47	2.31	2.19	2.19	2.19	2.19	2.19	4.23	3.11	3.11	3.11	3.11	3.11	5.46	4.0
4.5	0.73	0.85	0.85	0.85	0.85	0.82	0.88	1.04	1.04	1.04	1.04	1.00	1.28	1.52	1.55	1.55	1.55	1.35	1.58	1.90	1.95	1.95	1.95	1.62	1.78	1.78	1.78	1.78	1.78	2.97	2.45	2.45	2.45	2.45	2.45	3.84	4.5
5.0	0.53	0.69	0.69	0.69	0.69	0.60	0.65	0.83	0.84	0.84	0.84	0.73	0.97	1.19	1.23	1.25	1.25	0.99	1.18	1.50	1.55	1.58	1.58	1.18	1.41	1.44	1.44	1.44	1.44	2.16	1.90	1.99	1.99	1.99	1.99	2.80	5.0
5.5	0.39	0.56	0.57	0.57	0.57	0.45	0.49	0.66	0.69	0.70	0.70	0.55	0.73	0.95	0.99	1.04	1.04	0.74	0.90	1.20	1.24	1.30	1.30	0.89	1.12	1.19	1.19	1.19	1.19	1.63	1.48	1.64	1.64	1.64	1.64	2.10	5.5
6.0	0.29	0.45	0.48	0.48	0.48	0.35	0.37	0.53	0.56	0.58	0.58	0.42	0.55	0.77	0.81	0.87	0.87	0.57	0.69	0.96	1.02	1.10	1.10	0.68	0.89	1.00	1.00	1.00	1.00	1.25	1.15	1.38	1.38	1.38	1.38	1.62	6.0
6.5							0.29	0.43	0.46	0.50	0.50	0.33	0.42	0.63	0.66	0.74	0.74	0.45	0.54	0.78	0.83	0.93	0.93	0.54	0.70	0.85	0.85	0.85	0.85	0.99	0.90	1.18	1.18	1.18	1.18	1.27	6.5
7.0										0.43	0.43	0.27	0.33	0.52	0.55	0.63	0.64	0.36	0.43	0.64	0.69	0.79	0.80	0.43	0.54	0.73	0.73	0.73	0.73	0.79	0.71	1.01	1.01	1.01	1.01	1.02	7.0
7.5															0.46	0.54	0.56	0.29	0.34	0.53	0.57	0.67	0.70	0.35	0.43	0.63	0.64	0.64	0.64	0.64	0.56	0.85	0.88	0.88	0.88	0.83	7.5
8.0																0.46	0.49	0.24			0.48	0.58	0.62	0.29	0.34	0.54	0.56	0.56	0.56	0.53	0.46	0.72	0.77	0.78	0.78	0.68	8.0
8.5																						0.50	0.55	0.24	0.28	0.46	0.49	0.50	0.50	0.44	0.38	0.61	0.66	0.69	0.69	0.57	8.5
9.0																							0.49	0.20				0.44	0.44	0.37	0.31	0.52	0.57	0.61	0.61	0.48	9.0
9.5																																	0.49	0.55	0.55	0.41	9.5
10.0																																		0.50	0.50	0.35	10.0
10.5																																		0.45	0.45	0.30	10.5

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

PLAIN CEE LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	150/19						150/24						200/15						200/19						200/24						250/15						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	7.71	7.71	7.71	7.71	7.71	16.55	10.95	10.95	10.95	10.95	10.95	21.56	6.14	6.14	6.14	6.14	6.14	28.40	10.91	10.91	10.91	10.91	10.91	37.09													3.0
3.5	5.67	5.67	5.67	5.67	5.67	10.42	8.04	8.04	8.04	8.04	8.04	13.58	4.97	4.97	4.97	4.97	4.97	17.89	8.58	8.58	8.58	8.58	8.58	23.36													3.5
4.0	4.34	4.34	4.34	4.34	4.34	6.98	5.99	6.16	6.16	6.16	6.16	9.10	4.10	4.10	4.10	4.10	4.10	11.98	6.91	6.91	6.90	6.91	6.91	15.65	10.06	10.06	10.06	10.06	10.06	20.26	3.80	3.80	3.79	3.80	3.80	20.58	4.0
4.5	3.27	3.43	3.43	3.43	3.43	4.90	4.54	4.87	4.87	4.87	4.87	6.39	3.43	3.43	3.43	3.43	3.43	8.42	5.59	5.59	5.59	5.59	5.59	10.99	7.89	7.95	7.95	7.95	7.95	14.23	3.25	3.25	3.25	3.25	3.25	14.45	4.5
5.0	2.52	2.78	2.78	2.78	2.78	3.58	3.51	3.94	3.94	3.94	3.94	4.66	2.91	2.91	2.91	2.91	2.91	6.14	4.52	4.52	4.52	4.52	4.52	8.01	6.17	6.44	6.44	6.44	6.44	10.37	2.82	2.82	2.82	2.82	2.82	10.54	5.0
5.5	1.97	2.30	2.30	2.30	2.30	2.69	2.74	3.26	3.26	3.26	3.26	3.50	2.50	2.50	2.50	2.50	2.50	4.61	3.64	3.74	3.74	3.74	3.74	6.02	4.91	5.32	5.32	5.32	5.32	7.79	2.47	2.47	2.47	2.47	2.47	7.92	5.5
6.0	1.55	1.93	1.93	1.93	1.93	2.07	2.14	2.70	2.74	2.74	2.74	2.70	2.16	2.16	2.16	2.16	2.16	3.55	2.91	3.14	3.14	3.14	3.14	4.64	3.96	4.47	4.47	4.47	4.47	6.00	2.18	2.18	2.18	2.18	2.18	6.10	6.0
6.5	1.23	1.62	1.64	1.64	1.64	1.63	1.68	2.24	2.33	2.33	2.33	2.12	1.79	1.89	1.89	1.89	1.89	2.79	2.35	2.68	2.68	2.68	2.68	3.65	3.22	3.81	3.81	3.81	3.81	4.72	1.93	1.93	1.93	1.93	1.93	4.80	6.5
7.0	0.98	1.35	1.42	1.42	1.42	1.30	1.33	1.88	1.97	2.01	2.01	1.70	1.49	1.65	1.65	1.65	1.65	2.24	1.90	2.31	2.31	2.31	2.31	2.92	2.63	3.28	3.28	3.28	3.28	3.78	1.73	1.73	1.73	1.73	1.73	3.84	7.0
7.5	0.78	1.13	1.20	1.23	1.23	1.06	1.06	1.59	1.67	1.75	1.75	1.38	1.21	1.44	1.44	1.44	1.44	1.82	1.55	2.01	2.01	2.01	2.01	2.37	2.13	2.79	2.86	2.86	2.86	3.07	1.55	1.55	1.55	1.55	1.55	3.12	7.5
8.0	0.62	0.96	1.03	1.09	1.09	0.87	0.86	1.35	1.43	1.54	1.54	1.14	0.98	1.26	1.26	1.26	1.26	1.50	1.26	1.77	1.77	1.77	1.77	1.96	1.74	2.40	2.51	2.51	2.51	2.53	1.30	1.40	1.40	1.40	1.40	2.57	8.0
8.5	0.51	0.82	0.88	0.96	0.96	0.73	0.71	1.15	1.23	1.36	1.36	0.95	0.80	1.12	1.12	1.12	1.12	1.25	1.04	1.53	1.57	1.57	1.57	1.63	1.42	2.07	2.18	2.23	2.23	2.11	1.09	1.27	1.27	1.27	1.27	2.14	8.5
9.0	0.42	0.70	0.76	0.86	0.86	0.61	0.59	0.97	1.06	1.22	1.22	0.80	0.66	0.98	1.00	1.00	1.00	1.05	0.87	1.32	1.40	1.40	1.40	1.37	1.15	1.80	1.90	1.99	1.99	1.78	0.92	1.15	1.15	1.15	1.15	1.81	9.0
9.5	0.35	0.60	0.65	0.77	0.77	0.52	0.49	0.83	0.92	1.08	1.09	0.68	0.54	0.86	0.90	0.90	0.90	0.89	0.72	1.15	1.23	1.25	1.25	1.17	0.95	1.57	1.67	1.78	1.78	1.51	0.78	1.05	1.05	1.05	1.05	1.54	9.5
10.0	0.30	0.51	0.57	0.69	0.69	0.45	0.42	0.70	0.79	0.96	0.99	0.58	0.46	0.76	0.80	0.81	0.81	0.77	0.60	0.99	1.08	1.13	1.13	1.00	0.79	1.37	1.47	1.61	1.61	1.30	0.67	0.94	0.97	0.97	0.97	1.32	10.0
10.5			0.49	0.61	0.63	0.39	0.36	0.60	0.68	0.85	0.89	0.50	0.38	0.67	0.71	0.73	0.73	0.66	0.50	0.87	0.95	1.03	1.03	0.87	0.67	1.20	1.30	1.46	1.46	1.12	0.57	0.83	0.88	0.89	0.89	1.14	10.5
11.0				0.55	0.57	0.34	0.31	0.51	0.59	0.76	0.81	0.44	0.33	0.59	0.63	0.67	0.67	0.58	0.43	0.75	0.84	0.93	0.93	0.75	0.57	1.05	1.15	1.33	1.33	0.97	0.48	0.74	0.79	0.82	0.82	0.99	11.0
11.5				0.49	0.53	0.29			0.51	0.68	0.74	0.38	0.28	0.51	0.56	0.61	0.61	0.50	0.36	0.66	0.74	0.86	0.86	0.66	0.49	0.91	1.02	1.20	1.22	0.85	0.42	0.66	0.70	0.76	0.76	0.87	11.5
12.0					0.48	0.26				0.61	0.68	0.34			0.50	0.56	0.56	0.44	0.31	0.57	0.65	0.79	0.79	0.58	0.42	0.80	0.91	1.09	1.12	0.75	0.36	0.58	0.63	0.69	0.69	0.76	12.0
12.5										0.55	0.63	0.30				0.52	0.52	0.39	0.27	0.50	0.58	0.72	0.72	0.51	0.37	0.69	0.80	0.99	1.03	0.66	0.31	0.52	0.57	0.64	0.64	0.67	12.5
13.0										0.50	0.58	0.27				0.48	0.48	0.35			0.51	0.67	0.67	0.46	0.32	0.61	0.71	0.90	0.95	0.59			0.51	0.59	0.59	0.60	13.0
13.5											0.54	0.24										0.61	0.62	0.41	0.28	0.53	0.63	0.82	0.88	0.53				0.55	0.55	0.54	13.5
14.0											0.50	0.21										0.55	0.58	0.37			0.55	0.75	0.82	0.47				0.50	0.51	0.48	14.0
14.5																						0.50	0.54	0.33				0.69	0.77	0.43					0.48	0.43	14.5
15.0																							0.50	0.30				0.63	0.72	0.38							15.0
15.5																												0.58	0.67	0.35							15.5
16.0																												0.53	0.63	0.32							16.0
16.5																													0.59	0.29							16.5
17.0																													0.56	0.26							17.0
17.5																													0.53	0.24							17.5
18.0																													0.50	0.22							18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	250/19						250/24						300/24(90)						300/24(100)						300/30(90)						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0	10.31	10.31	10.31	10.31	10.31	63.90							18.72	18.72	18.72	18.72	18.72	133.00	18.77	18.77	18.77	18.77	18.77	139.60	3.114E+1+						3.0
3.5	8.37	8.37	8.38	8.37	8.37	40.24							15.22	15.22	15.22	15.23	15.22	83.74	15.27	15.27	15.27	15.28	15.27	87.94	2.476E+1+						3.5
4.0	6.93	6.93	6.93	6.93	6.93	26.95							12.61	12.61	12.61	12.61	12.61	56.10	12.66	12.66	12.66	12.66	12.66	58.91	2.011E+1+						4.0
4.5	5.83	5.83	5.83	5.83	5.83	18.93							10.61	10.61	10.61	10.61	10.61	39.40	10.66	10.65	10.65	10.66	10.65	41.38	1.648E+1+						4.5
5.0	4.96	4.96	4.96	4.96	4.96	13.80	8.13	8.13	8.13	8.13	8.13	18.49	9.03	9.03	9.03	9.03	9.03	28.73	9.08	9.08	9.08	9.08	9.08	30.17	1.335E+1*	13.35	13.35	13.35	13.35	36.14	5.0
5.5	4.26	4.26	4.27	4.26	4.26	10.37	6.72	6.72	6.72	6.72	6.72	13.89	7.77	7.77	7.77	7.78	7.78	21.58	7.81	7.82	7.82	7.81	7.82	22.66	1.103E+1*	11.03	11.03	11.03	11.03	27.15	5.5
6.0	3.70	3.70	3.70	3.70	3.70	7.99	5.56	5.65	5.65	5.64	5.64	10.70	6.75	6.75	6.75	6.75	6.75	16.62	6.79	6.79	6.79	6.79	6.79	17.46	9.268E+0*	9.27	9.27	9.27	9.27	20.91	6.0
6.5	3.22	3.24	3.24	3.24	3.24	6.28	4.52	4.81	4.81	4.81	4.81	8.42	5.90	5.90	5.90	5.90	5.90	13.07	5.95	5.95	5.95	5.95	5.95	13.73	7.735E+0*	7.90	7.90	7.90	7.90	16.45	6.5
7.0	2.68	2.86	2.86	2.86	2.86	5.03	3.70	4.15	4.15	4.15	4.15	6.74	4.98	5.09	5.09	5.09	5.09	10.47	5.15	5.15	5.15	5.15	5.15	10.99	6.36	6.81	6.81	6.81	6.81	13.17	7.0
7.5	2.25	2.51	2.51	2.51	2.51	4.09	3.05	3.61	3.61	3.61	3.61	5.48	4.10	4.43	4.43	4.43	4.43	8.51	4.46	4.49	4.48	4.48	4.48	8.94	5.26	5.93	5.93	5.93	5.93	10.71	7.5
8.0	1.87	2.20	2.20	2.20	2.20	3.37	2.52	3.18	3.18	3.18	3.18	4.51	3.39	3.90	3.90	3.90	3.90	7.01	3.79	3.94	3.94	3.94	3.94	7.36	4.36	5.21	5.21	5.21	5.21	8.82	8.0
8.5	1.53	1.95	1.95	1.95	1.95	2.81	2.09	2.81	2.81	2.81	2.81	3.76	2.81	3.45	3.45	3.45	3.45	5.85	3.18	3.49	3.49	3.49	3.49	6.14	3.61	4.62	4.62	4.62	4.62	7.36	8.5
9.0	1.26	1.74	1.74	1.74	1.74	2.37	1.73	2.51	2.51	2.51	2.51	3.17	2.33	3.08	3.08	3.08	3.08	4.93	2.67	3.11	3.11	3.11	3.11	5.17	2.95	4.12	4.12	4.12	4.12	6.20	9.0
9.5	1.04	1.55	1.56	1.56	1.56	2.01	1.44	2.20	2.25	2.25	2.25	2.70	1.94	2.76	2.76	2.76	2.76	4.19	2.24	2.80	2.80	2.80	2.80	4.40	2.43	3.70	3.70	3.70	3.70	5.27	9.5
10.0	0.88	1.37	1.41	1.41	1.41	1.73	1.20	1.93	2.03	2.03	2.03	2.31	1.64	2.49	2.49	2.49	2.49	3.59	1.88	2.52	2.52	2.52	2.52	3.77	2.03	3.31	3.34	3.34	3.34	4.52	10.0
10.5	0.75	1.21	1.28	1.28	1.28	1.49	1.01	1.69	1.83	1.84	1.84	2.00	1.38	2.26	2.26	2.26	2.26	3.10	1.60	2.29	2.29	2.29	2.29	3.26	1.71	2.91	3.03	3.03	3.03	3.90	10.5
11.0	0.64	1.08	1.14	1.17	1.17	1.30	0.86	1.49	1.62	1.68	1.68	1.74	1.17	2.00	2.06	2.06	2.06	2.70	1.37	2.09	2.09	2.09	2.09	2.83	1.46	2.57	2.76	2.76	2.76	3.39	11.0
11.5	0.55	0.96	1.02	1.07	1.07	1.13	0.74	1.31	1.44	1.54	1.54	1.52	1.00	1.76	1.89	1.89	1.89	2.36	1.18	1.91	1.91	1.91	1.91	2.48	1.26	2.27	2.49	2.52	2.52	2.97	11.5
12.0	0.48	0.85	0.92	0.98	0.98	1.00	0.64	1.16	1.28	1.41	1.41	1.34	0.86	1.56	1.73	1.73	1.73	2.08	1.03	1.72	1.75	1.75	1.75	2.18	1.08	2.01	2.22	2.32	2.32	2.61	12.0
12.5	0.41	0.75	0.83	0.90	0.90	0.88	0.55	1.02	1.15	1.30	1.30	1.18	0.75	1.37	1.55	1.60	1.60	1.84	0.90	1.55	1.61	1.61	1.61	1.93	0.93	1.78	1.99	2.14	2.14	2.31	12.5
13.0	0.36	0.65	0.75	0.83	0.83	0.79	0.48	0.90	1.02	1.20	1.20	1.05	0.65	1.21	1.38	1.48	1.48	1.63	0.78	1.38	1.49	1.49	1.49	1.72	0.81	1.58	1.78	1.97	1.97	2.06	13.0
13.5	0.32	0.57	0.67	0.77	0.77	0.70	0.42	0.79	0.91	1.12	1.12	0.94	0.57	1.07	1.23	1.37	1.37	1.46	0.68	1.23	1.37	1.38	1.38	1.53	0.71	1.38	1.60	1.83	1.83	1.84	13.5
14.0	0.28	0.50	0.60	0.72	0.72	0.63	0.37	0.70	0.82	1.04	1.04	0.84	0.50	0.95	1.10	1.27	1.27	1.31	0.60	1.10	1.25	1.29	1.29	1.37	0.62	1.21	1.43	1.70	1.70	1.65	14.0
14.5			0.53	0.67	0.67	0.57	0.33	0.62	0.73	0.97	0.97	0.76	0.44	0.84	0.99	1.19	1.19	1.18	0.53	0.98	1.13	1.20	1.20	1.24	0.55	1.07	1.29	1.59	1.59	1.48	14.5
15.0				0.62	0.63	0.51	0.29	0.55	0.65	0.89	0.90	0.68	0.39	0.75	0.88	1.11	1.11	1.06	0.47	0.87	1.02	1.12	1.12	1.12	0.49	0.94	1.15	1.48	1.48	1.34	15.0
15.5				0.57	0.59	0.46	0.26	0.49	0.58	0.81	0.85	0.62	0.35	0.67	0.79	1.04	1.04	0.96	0.42	0.78	0.92	1.05	1.05	1.01	0.44	0.84	1.02	1.39	1.39	1.21	15.5
16.0				0.53	0.55	0.42			0.52	0.75	0.79	0.56	0.31	0.59	0.71	0.97	0.97	0.88	0.38	0.70	0.83	0.99	0.99	0.92	0.39	0.75	0.90	1.29	1.30	1.10	16.0
16.5				0.49	0.52	0.38				0.69	0.75	0.51	0.28	0.53	0.64	0.92	0.92	0.80	0.34	0.63	0.75	0.93	0.93	0.84	0.35	0.67	0.81	1.19	1.23	1.01	16.5
17.0					0.49	0.35				0.63	0.70	0.47			0.57	0.86	0.86	0.73	0.31	0.57	0.67	0.87	0.87	0.77	0.32	0.60	0.72	1.10	1.15	0.92	17.0
17.5										0.59	0.66	0.43			0.52	0.79	0.81	0.67			0.61	0.82	0.82	0.70	0.29	0.55	0.65	1.02	1.09	0.84	17.5
18.0										0.54	0.63	0.40				0.73	0.77	0.62			0.55	0.78	0.78	0.65	0.26	0.49	0.59	0.94	1.03	0.77	18.0

1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

PLAIN CEE LOAD SPAN TABLES - **END SPAN**

Uniformly Loaded Bending Capacities (kN/m) ϕbWbx

	300/30(100)						350/24						350/30						400/24						400/30						
Span (m)	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	0B	1B	2B	3B	FR	Ws	Span (m)
3.0							17.37	17.37	17.38	17.37	17.37	203.20							15.81	15.81	15.81	15.81	15.81	285.10							3.0
3.5							14.44	14.44	14.45	14.45	14.44	128.00							13.32	13.32	13.32	13.33	13.32	179.50							3.5
4.0							12.22	12.22	12.22	12.22	12.22	85.73							11.43	11.43	11.43	11.43	11.43	120.30							4.0
4.5							10.49	10.49	10.49	10.49	10.49	60.21							9.95	9.95	9.95	9.95	9.95	84.48							4.5
5.0	13.52	13.52	13.52	13.52	13.52	38.11	9.10	9.10	9.10	9.10	9.10	43.89							8.76	8.76	8.76	8.76	8.76	61.58							5.0
5.5	11.18	11.18	11.18	11.18	11.18	28.64	7.97	7.97	7.97	7.97	7.97	32.98							7.77	7.77	7.77	7.77	7.77	46.27							5.5
6.0	9.39	9.39	9.39	9.39	9.39	22.06	7.03	7.03	7.03	7.03	7.03	25.40	11.34	11.34	11.34	11.34	11.34	32.32	6.95	6.95	6.95	6.95	6.95	35.64	11.54	11.54	11.54	11.54	11.54	44.79	6.0
6.5	8.00	8.00	8.00	8.00	8.00	17.35	6.25	6.25	6.25	6.25	6.25	19.98	9.97	9.96	9.96	9.96	9.96	25.42	6.25	6.25	6.25	6.25	6.25	28.03	10.26	10.26	10.27	10.26	10.26	35.23	6.5
7.0	6.87	6.90	6.90	6.90	6.90	13.89	5.58	5.58	5.58	5.58	5.58	16.00	8.82	8.82	8.82	8.82	8.82	20.35	5.66	5.66	5.66	5.66	5.66	22.44	9.18	9.18	9.18	9.18	9.18	28.20	7.0
7.5	5.74	6.01	6.01	6.01	6.01	11.29	5.01	5.01	5.01	5.01	5.01	13.01	7.53	7.72	7.72	7.72	7.72	16.55	5.14	5.14	5.14	5.14	5.14	18.25	8.26	8.26	8.26	8.26	8.26	22.93	7.5
8.0	4.81	5.28	5.28	5.28	5.28	9.31	4.53	4.53	4.53	4.53	4.53	10.72	6.33	6.79	6.79	6.79	6.79	13.63	4.69	4.69	4.69	4.69	4.69	15.03	7.46	7.46	7.46	7.46	7.46	18.89	8.0
8.5	4.05	4.68	4.68	4.68	4.68	7.76	3.96	4.10	4.10	4.10	4.10	8.93	5.34	6.01	6.01	6.01	6.01	11.37	4.29	4.29	4.30	4.29	4.29	12.53	6.75	6.77	6.77	6.77	6.77	15.75	8.5
9.0	3.42	4.17	4.17	4.17	4.17	6.54	3.40	3.74	3.74	3.74	3.74	7.53	4.52	5.36	5.36	5.36	5.36	9.58	3.95	3.95	3.95	3.95	3.95	10.56	5.73	6.17	6.17	6.17	6.17	13.27	9.0
9.5	2.88	3.75	3.75	3.75	3.75	5.56	2.93	3.41	3.41	3.41	3.41	6.40	3.83	4.81	4.81	4.81	4.81	8.14	3.58	3.64	3.64	3.64	3.64	8.98	4.86	5.64	5.64	5.64	5.64	11.28	9.5
10.0	2.44	3.38	3.38	3.38	3.38	4.76	2.47	3.13	3.13	3.13	3.13	5.49	3.23	4.35	4.35	4.35	4.35	6.98	3.09	3.36	3.36	3.36	3.36	7.70	4.08	5.17	5.17	5.17	5.17	9.67	10.0
10.5	2.07	3.07	3.07	3.07	3.07	4.12	2.09	2.88	2.88	2.88	2.88	4.74	2.71	3.94	3.94	3.94	3.94	6.03	2.68	3.12	3.12	3.11	3.12	6.65	3.45	4.76	4.76	4.76	4.76	8.36	10.5
11.0	1.76	2.79	2.79	2.79	2.79	3.58	1.79	2.60	2.64	2.64	2.64	4.12	2.30	3.59	3.59	3.59	3.59	5.25	2.34	2.89	2.89	2.89	2.89	5.78	2.92	4.34	4.34	4.34	4.34	7.27	11.0
11.5	1.50	2.48	2.56	2.56	2.56	3.13	1.55	2.33	2.42	2.42	2.42	3.61	1.97	3.26	3.29	3.29	3.29	4.59	2.03	2.70	2.70	2.69	2.70	5.06	2.47	3.93	3.97	3.97	3.97	6.36	11.5
12.0	1.29	2.21	2.35	2.35	2.35	2.76	1.34	2.10	2.22	2.22	2.22	3.18	1.70	2.91	3.02	3.02	3.02	4.04	1.74	2.52	2.52	2.52	2.52	4.46	2.11	3.56	3.65	3.65	3.65	5.60	12.0
12.5	1.12	1.98	2.16	2.16	2.16	2.44	1.16	1.89	2.01	2.04	2.04	2.81	1.47	2.60	2.78	2.78	2.78	3.57	1.49	2.32	2.35	2.35	2.35	3.94	1.81	3.24	3.36	3.36	3.36	4.95	12.5
13.0	0.98	1.77	1.95	2.00	2.00	2.17	1.01	1.71	1.83	1.89	1.89	2.50	1.28	2.33	2.56	2.57	2.57	3.18	1.29	2.10	2.20	2.20	2.20	3.50	1.57	2.95	3.09	3.11	3.11	4.40	13.0
13.5	0.86	1.58	1.76	1.86	1.86	1.94	0.89	1.55	1.67	1.75	1.75	2.23	1.11	2.09	2.32	2.38	2.38	2.84	1.12	1.90	2.05	2.07	2.07	3.13	1.36	2.65	2.83	2.88	2.88	3.93	13.5
14.0	0.76	1.42	1.59	1.73	1.73	1.74	0.78	1.41	1.52	1.63	1.63	2.00	0.97	1.88	2.10	2.22	2.22	2.54	0.98	1.72	1.87	1.95	1.94	2.81	1.19	2.39	2.60	2.68	2.68	3.53	14.0
14.5	0.67	1.27	1.44	1.61	1.61	1.56	0.69	1.27	1.39	1.52	1.52	1.80	0.86	1.69	1.90	2.07	2.07	2.29	0.86	1.56	1.71	1.83	1.83	2.53	1.05	2.15	2.39	2.50	2.50	3.17	14.5
15.0	0.60	1.13	1.30	1.50	1.50	1.41	0.61	1.15	1.27	1.42	1.42	1.63	0.76	1.51	1.73	1.93	1.93	2.07	0.76	1.42	1.56	1.73	1.73	2.28	0.93	1.93	2.19	2.34	2.34	2.87	15.0
15.5	0.54	1.02	1.18	1.41	1.41	1.28	0.54	1.02	1.16	1.33	1.33	1.47	0.67	1.36	1.57	1.81	1.81	1.88	0.67	1.29	1.43	1.63	1.63	2.07	0.82	1.72	2.00	2.19	2.19	2.60	15.5
16.0	0.48	0.91	1.07	1.32	1.32	1.16	0.48	0.92	1.07	1.25	1.25	1.34	0.60	1.21	1.43	1.70	1.70	1.70	0.60	1.17	1.31	1.53	1.53	1.88	0.73	1.54	1.82	2.05	2.05	2.36	16.0
16.5	0.43	0.82	0.97	1.24	1.24	1.06	0.43	0.82	0.98	1.17	1.17	1.22	0.54	1.08	1.29	1.60	1.60	1.55	0.53	1.08	1.20	1.44	1.44	1.71	0.65	1.38	1.65	1.93	1.93	2.15	16.5
17.0	0.39	0.74	0.88	1.17	1.17	0.97	0.38	0.75	0.89	1.10	1.11	1.12	0.49	0.97	1.18	1.50	1.50	1.42	0.48	0.98	1.10	1.35	1.36	1.57	0.59	1.24	1.50	1.82	1.82	1.97	17.0
17.5	0.35	0.66	0.79	1.10	1.10	0.89	0.34	0.68	0.80	1.03	1.04	1.02	0.44	0.87	1.07	1.42	1.42	1.30	0.43	0.89	1.01	1.26	1.28	1.44	0.53	1.11	1.36	1.72	1.72	1.81	17.5
18.0	0.32	0.60	0.72	1.02	1.04	0.82	0.31	0.61	0.73	0.96	0.99	0.94	0.40	0.79	0.96	1.34	1.34	1.20	0.39	0.81	0.93	1.18	1.21	1.32	0.48	0.99	1.22	1.62	1.62	1.66	18.0

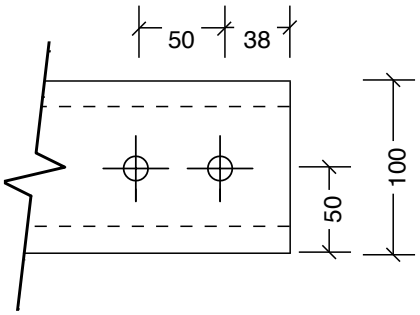
1. 0B, 1B, 2B & 3B: Load Capacity for 1, 2 and 3 rows of bracing. **2.** Inwards = < & Outwards = > **3. W_S:** Load at a deflection of span/150.

M12 grade 4.6 Bolts M12 grade 8.8 Bolts M16 grade 4.6 Bolts M16 grade 8.8 Bolts

June 2026

Dimond Structural

CEE PURLIN STANDARD HOLE LOCATIONS

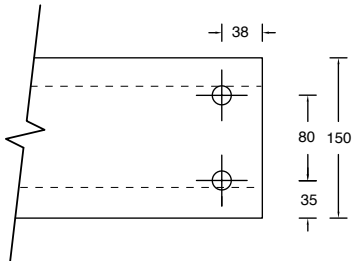


NOTE: HOLES CANNOT BE PUNCHED IN THE AREAS SHOWN AS IN THE DIAGRAM ABOVE.

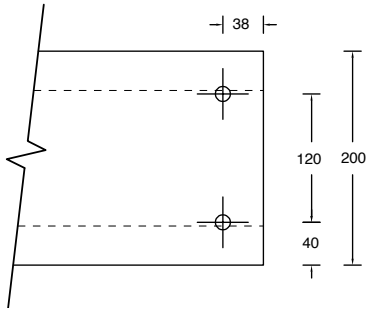
ALL HOLES ARE 18mm UNLESS SPECIFIED OTHERWISE

CEE 100

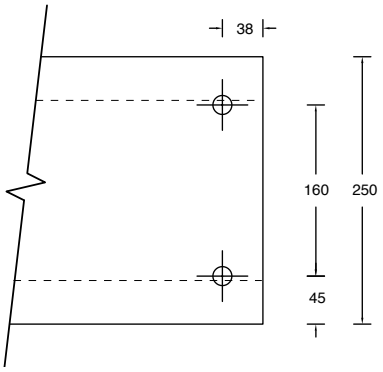
14mm holes



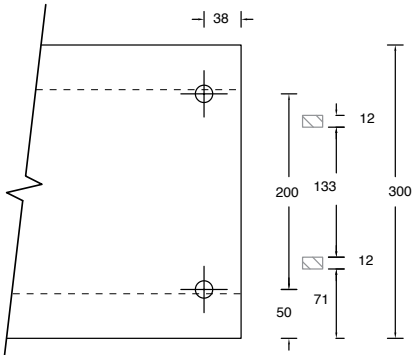
CEE 150



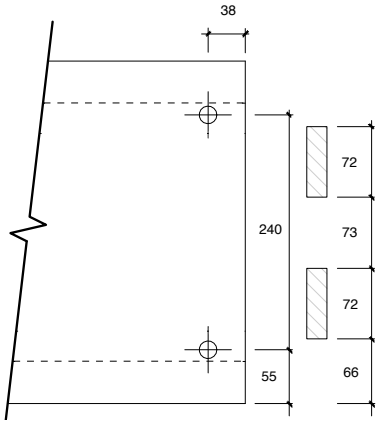
CEE 200



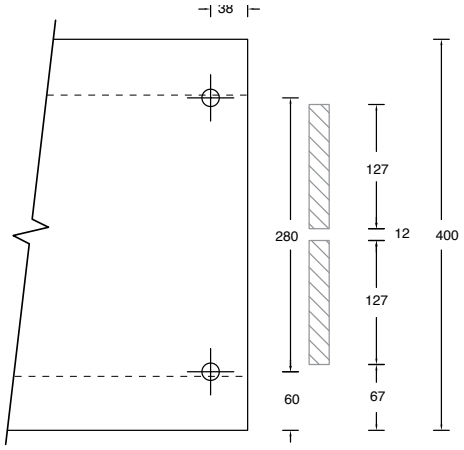
CEE 250



CEE 300



CEE 350



CEE 400

Dimond Structural™

Installation – Dimond Purlin Systems

June 2026

DIMOND PURLIN SYSTEM MATERIAL SPECIFICATION

1.4.1

Dimond Structural Purlins are manufactured by roll forming galvanised steel coil produced to AS 1397.

	Base Metal Thickness BMT (mm)	Steel Grade, G	Yield Strength f_y (MPa)	Zinc Weight, Z (g/m^2)
Purlins and Girts	< 1.5	G500	500	275
	> 1.5	G450	500	275
Brace Channel	1.15	G250	250	450
End Cleats	2.00	G250	250	450

Z450 galvanised zinc coil can be supplied with order lead times of up 12 weeks. Contact Dimond Structural on 0800 Dimond (0800 346 663).

Tolerances

Length: Purlins ±6mm Bracing System ±2mm

Depth/Width: Purlins ±2mm Bracing System ±1mm

Holes Centres: ±1.5mm

Web/Flange Angle: 89-93 degrees

DIMOND PURLIN SYSTEM SHORT FORM SPECIFICATION

1.4.2

The purlin system will be Dimond Structural Purlin **(1)** or **(2)**, manufactured from G450-G500 grade steel with a **(3)** g/m^2 galvanised
zinc weight.

The sizes, lengths, span configuration and lap lengths (where required) are as detailed on the drawings.

All hole sizes, hole shapes and positions are as shown on the drawings.

The bracing system is to be **(4)**. The bracing channel size is 89mm x 34mm x 1.15mm BMT with a 450g/m^2 galvanised zinc weight.

All bolts to be Grade **(5)**, **(6)** diameter, and **(7)** finish.

(1) Choose DHS from: 150/12, 150/15, 150/18, 200/12, 200/15, 200/18, 250/13, 250/15, 250/18, 250/24, 300/15, 300/18, 300/24, 300/30, 350/18, 350/24, 350/30, 400/20, 400/24, 400/30

(2) Choose CEE Purlin from: 100/10, 100/12, 100/16, 100/19, 150/12, 150/15, 150/19, 150/24, 200/15, 200/19, 200/24, 250/15, 250/19, 250/24, 300/24(90), 300/24(100), 300/30(90), 300/30(100), 350/24, 350/30, 400/24, 400/30

(3) Choose from: 275 or 450

(4) Choose from: Fastbrace (Purlin 150 - 300 only) or Bolted Brace Channel (Purlin 350 - 400)

(5) Choose from: 4.6 or 8.8

(6) Choose from: 12mm or 16mm

(7) Choose from: Electro galvanised or Hot Dip galvanised.

DIMOND PURLINS SPLICE JOINT

Bolted Splice Connection Capacity			Splice Plate				*All Bolts M16 unless noted otherwise*	
Type	ΦM	ΦV	BMT	p	s	a	No. of Bolts	Grade
DHS 150/12	3.0kNm	6.0kN	2.40mm	80mm	120mm	30mm	4	Grade 4.6
DHS 150/15	4.0kNm	11.0kN						
DHS 150/18	5.0kNm	18.0kN						
DHS 200/12	4.5kNm	4.5kN		120mm				
DHS 200/15	6.0kNm	8.0kN						
DHS 200/18	7.0kNm	13.5kN						
DHS 250/13	7.0kNm	5.0kN		160mm	180mm			
DHS 250/15	8.5kNm	7.5kN						
DHS 250/18	10.0kNm	12.5kN						
DHS 250/24	8.5kNm	22.0kN						
DHS 300/15	10.0kNm	6.0kN	3.00mm	200mm	120mm	50mm	6	
DHS 300/18	13.0kNm	10.5kN						
DHS 300/24	20.0kNm	23.5kN						
DHS 300/30	26.5kNm	44.0kN						Grade 8.8
DHS 350/18	16.0kNm	8.5kN		240mm				Grade 4.6
DHS 350/24	24.5kNm	20.0kN						
DHS 350/30	32.5kNm	38.5kN						Grade 8.8
DHS 400/20	21.5kNm	10.0kN		280mm				Grade 4.6
DHS 400/24	28.5kNm	17.0kN						
DHS 400/30	38.5kNm	33.5kN						Grade 8.8
CEE 150/12	3.0kNm	6.0kN	2.40mm	80mm	120mm	30mm	4	Grade 4.6
CEE 150/15	4.0kNm	11.0kN						
CEE 150/19	5.0kNm	18.0kN						
CEE 150/24	6.0kNm	20.0kN						
CEE 200/15	6.0kNm	8.0kN		120mm				
CEE 200/19	7.0kNm	13.5kN						
CEE 200/24	7.5kNm	20.0kN						
CEE 250/15	8.5kNm	7.5kN		160mm	180mm			
CEE 250/19	10.0kNm	12.5kN						
CEE 250/24	8.5kNm	22.0kN						
CEE 300/24 (90)	15.0kNm	20.0kN	3.00mm	200mm	120mm	50mm	6	
CEE 300/24 (100)	20.0kNm	25.0kN						
CEE 300/30 (90)	23.0kNm	35.0kN						Grade 8.8
CEE 300/30 (100)	26.5kNm	44.0kN						
CEE 350/24	24.5kNm	20.0kN		240mm				Grade 4.6
CEE 350/30	32.5kNm	38.5kN						Grade 8.8
CEE 400/24	28.5kNm	17.0kN		280mm				Grade 4.6
CEE 400/30	38.5kNm	33.5kN						Grade 8.8

GENERAL NOTES: PURLIN SPLICE CONNECTIONS (DHS & CEE)

1. Design & Compliance

- Standards: Design capacities are calculated in accordance with AS/NZS 4600 for components < 3.0mm BMT, and NZS 3404 for components ≥ 3.0mm BMT.
- Ductility: No structural ductility is taken into account for the connection or splice plate capacities.
- Responsibility: The project design engineer must satisfy themselves that the chosen splice type, bolt layout, and group capacity are adequate for the specific application.

2. Fasteners & Fixing

- Bolt Specification: Splice plate connections must be made using M16 bolts in the pre-punched 18mm holes.
- Alternative Fasteners: Do not substitute or calculate capacities using M12 bolts. Unless verified by specific engineering design.
- Washers: Bearing and tearout capacities assume standard structural washers are installed on both sides of the joint.

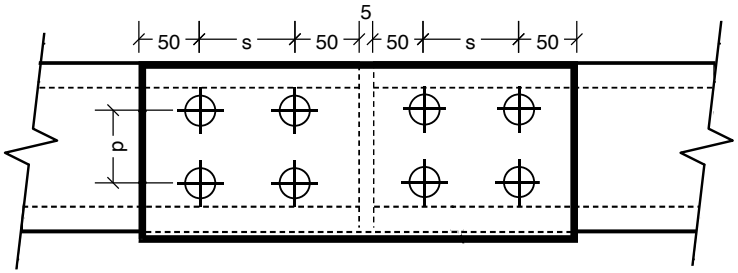
3. Location & Support Limitations

- Preferred Location: Splices should be positioned in low-moment zones, ideally near the natural inflection point (0.15L to 0.20L from the support).
- Internal Supports: Standard flat splice plates must not be used directly over internal supports where high continuous hogging moments occur. Unless verified by specific engineering design.
- Support Continuity: Where purlin runs join or terminate over an internal rafter, structural continuity must be achieved using a nested/lapped purlin configuration rather than a flat splice plate. Unless verified by specific engineering design.

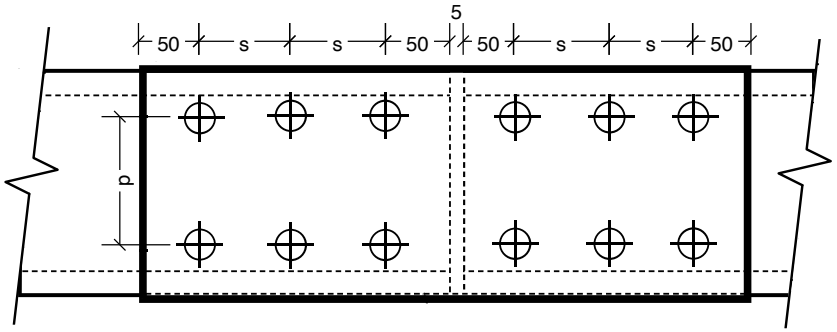
4. Serviceability (SLS) & Deflection

- Joint Flexibility: All standard bolted splices exhibit localized joint rotation and bolt slip due to the 2mm hole clearance (M16 bolt in an 18mm hole).
- Deflection Increase: This connection flexibility reduces overall member stiffness and will increase net mid-span deflection compared to an unbroken continuous purlin.
- SLS Checks: The design engineer must account for this additional deflection component when checking the system against project SLS limits.

PURLINS SPLICE JOINT



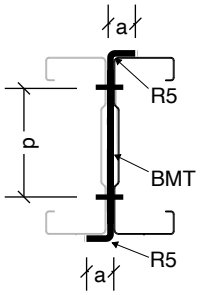
TYPE 1



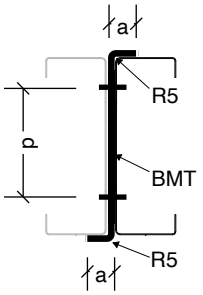
TYPE 2

ALL HOLES ARE 18mm UNLESS SPECIFIED OTHERWISE

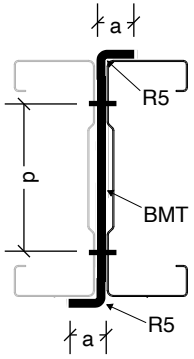
SPLICE PLATE



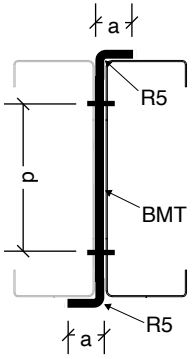
DHS
(150 to 250)



CEE
(150 to 250)



DHS
(300 to 400)



CEE
(300 to 400)

Splice Plate Section

All bolts M16 unless noted otherwise

Dimond Structural

FASTBRACE 1.4.4.1

Fastbrace is a lock-in bracing system which runs in continuous lines between all purlins/girts and uses cleats with specially shaped lock-in tabs attached to each end of 89mm x 1.15mm (89/12 G250) brace channel, suitable for use with DHS purlins from DHS 150/12 up to DHS 300/30. Fastbrace is fitted each side of the DHS purlin through pre-punched 18mm diameter round bracing holes, locking together to lower erection time. When a line of Fastbrace has been installed, the system provides resistance to restrict lateral movement of the DHS purlin system.

The end brace at the first and last bracing position is secured using the standard bolted connection on the outermost cleat end. To ensure straight alignment of the bracing system, the bracing holes can be offset from the bracing line by 25mm over the last purlin spacing to accommodate the bolted cleat. If not, an angle of approximately two degrees from a straight alignment on the end braces is created.

Cranked Sag Rods are used in the lower bolt position to tie the bracing lines each side of the rafter together at the ridge (or at a step in the roof).

Where back to back DHS purlins are used, bolted end brace components are required each side, where the bolts can accommodate the extra purlin thickness, spacer cleats etc.

For use, handling and maintenance guidelines, refer Environments 2.1.3, Handling And Storage 2.5.2 and Maintenance 2.1.6.

FASTBRACE COMPONENTS

Standard Brace

This is the standard Fastbrace component used almost everywhere in the system. It locks into other standard brace components, adjustable brace components, or end brace components.

End Brace

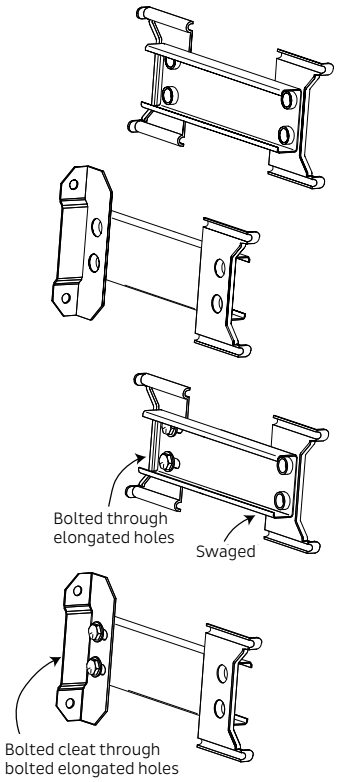
End brace is used at the end of a purlin bracing line, i.e. eaves or ridge, each side of a roof step, or at top and bottom girts on a wall. The end brace locks into either standard or adjustable brace at one end and is fitted between the DHS purlin lips and bolted into position at the other end.

Adjustable Brace

This is the adjustable component in the Fastbrace system and is used where some level of adjustment on the purlin line is required. The purlin is adjusted into line and the hexagonal flange bolts on the brace tightened. The adjustable brace offers up to 20mm of adjustment.

Adjustable End Brace

Where the end purlin spacing is less than 800mm, an adjustable end brace with a bolted end cleat is available, as twisting of the end cleat is not practical. The adjustable cleat can be rotated up to 15 degrees from normal, to accommodate the change in angle from vertical portal to the roof slope of the rafter.



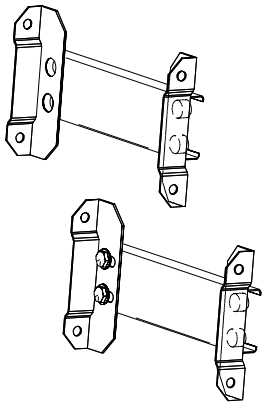
BOLTED BRACE CHANNEL 1.4.4.2

Bolted Brace Channel is a bolted bracing system running in continuous lines between all purlins/girts and uses cleats clinched to each end of 89mm x 1.15mm (89/12 G250) bracing channel, fastened with bolts through the DHS purlins (two bolts each end). Bolted Brace Channel is suitable for use on all DHS Purlin sizes.

Cranked Sag Rods are used in the lower bolt position to tie the bracing lines each side of the rafter together at the ridge (or at a step in the roof).

For use, handling and maintenance guidelines, refer Environments 2.1.3, Handling And Storage 2.5.2 and Maintenance 2.1.6.

BOLTED BRACE CHANNEL COMPONENTS



Bolted Brace Channel

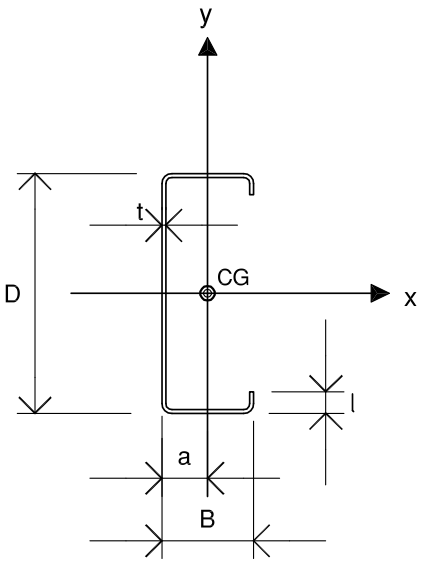
This is the standard component used in the bolted brace channel system and is used almost everywhere.

Adjustable Bolted Brace Channel

This is the adjustable component in the bolted brace channel system and is used where some level of adjustment on the purlin line is required. The purlin is adjusted into line and the hexagonal flange bolts on the brace tightened. The adjustable brace offers up to 20mm of adjustment.

BRACE CHANNEL SECTION PROPERTIES

1.4.4.3



Tabulated properties are based on full unreduced sections.

Code	D x B (mm)	t (mm)	Mass (kg/m)	Weight (kN/m)	Area (mm^2)	l (mm)	a (mm)	I_x (10^6 mm^4)	I_y (10^6 mm^4)	Z_x (10^3 mm^3)	Column Properties	
											J (mm^4)	I_w (10^9 mm^6)
DB 89/12	89 x 34	1.15	1.52	0.015	186.3	6	9.17	0.223	0.024	5.00	84.13	0.040

Note: Mass assumes a total coated weight for the zinc coating of 450g/m^2

PORTAL CLEATS

1.4.4.4

Portal Cleats are supplied by the fabricator or installer and welded on to the portal frame. Cleat thicknesses generally range from 6mm to 12mm thickness. The hole centres are laid out to suit hole punchings in the DHS purlin, refer CAD Details on-line (**www.dimondstructural.co.nz/products/dhs-purlins**). The cleat height may need to be increased where an expansion step in the roof is detailed.

GENERAL PURPOSE BRACKET

1.4.4.5

General Purpose Brackets are supplied by Dimond Structural and are typically used to connect trimmer purlins etc. General purpose brackets are not load rated and are suitable for application only in non-structural elements. Holes and cleat dimensions are set-out to suit use with the DHS Purlin System only, refer CAD Details on-line (**www.dimondstructural.co.nz/products/dhs-purlins**).

SAG RODS

1.4.4.6

Purpose-made cranked sag rods are installed at each bracing line in the lower holes on the DHS ridge purlins to tie the bracing lines on each side of the rafter together at the ridge. Sag Rods are fully tightened up upon installing purlin bracing.

Supplied by steel erectors and fabricators in 12mm diameter engineering round bar Grade 250MPa, galvanised or electroplated finishes, with double nuts and washers each end. Where loads require, 16mm diameter engineering round bar can be used.

TIMBER BATTENS

1.4.4.7

Where Timber Battens are to be fastened to the DHS Purlin System, Dimond Structural recommend using an ex 50mm x 50mm timber batten or a depth of batten to account for insulation and ventilation requirements, gauged two sides and treated to H3.1 timber preservation such as boric or LOSP (low organic solvent preservative). Avoid the use of CCA treated timber, as chemicals used in the CCA treatment (e.g. copper and chromium) could contact the galvanised purlin surface and the fasteners, causing dissimilar metal corrosion.

The batten is fixed onto the top flange of the DHS Purlins, once the netting or safety mesh has been laid on the structure. For ex 50mm x 50mm battens, fixings are to be 10g – 16 x 75mm Countersunk Rib Head Wingteks. The coating finish is a zinc plated AS 3566 class 2 finish. Longer, other types of fixings may need to be considered when the timber depth is greater.

Spacing of the Wingteks is dependent on the DHS material thickness it is being fixed into. To achieve a maximum outward load of 5.0kN/m on the Timber Batten, refer to faster centres in the following table.

DHS Purlin Base Metal Thickness (mm)	Maximum Fastener Centres (mm)
1.15	250
1.25 to 3.0	300

DIMOND PURLIN SYSTEM CAD DETAILS

1.4.4.8

For the latest DHS Purlin System CAD details, please download from the Dimond Structural website **www.dimondstructural.co.nz/products/dhs-purlins**

Please note, the DHS Purlin System CAD details are to be used as a guide only and are not intended for construction. Specific design details are required to be provided by the design engineer.

BRACING SYSTEM INSTALLATION

Prior to the DHS purlin/girt system being fully installed and loads applied, the bracing system must be installed. Bracing systems are either Fastbrace or Bolted Brace Channel systems which run in continuous lines between all purlins/girts.

Practically, to avoid pulling the weight of all the purlins up the roof slope (or girts up the wall), the bracing system should be installed from the ridge down for DHS purlins (or from the eaves down for DHS girts).

Bolted Brace Channels rely on placing and tightening one bolt/washer/nut assembly through each of the top and bottom bracing holes through the brace cleats each side of the purlin.

Purpose-made cranked sag rods are installed at each bracing line in the lower holes on the DHS ridge purlins, to tie the bracing lines on each side of the rafter together at the ridge (or at a step in the roof). These rods are fitted with washers and double nuts and fully tightened up upon installing purlin bracing.

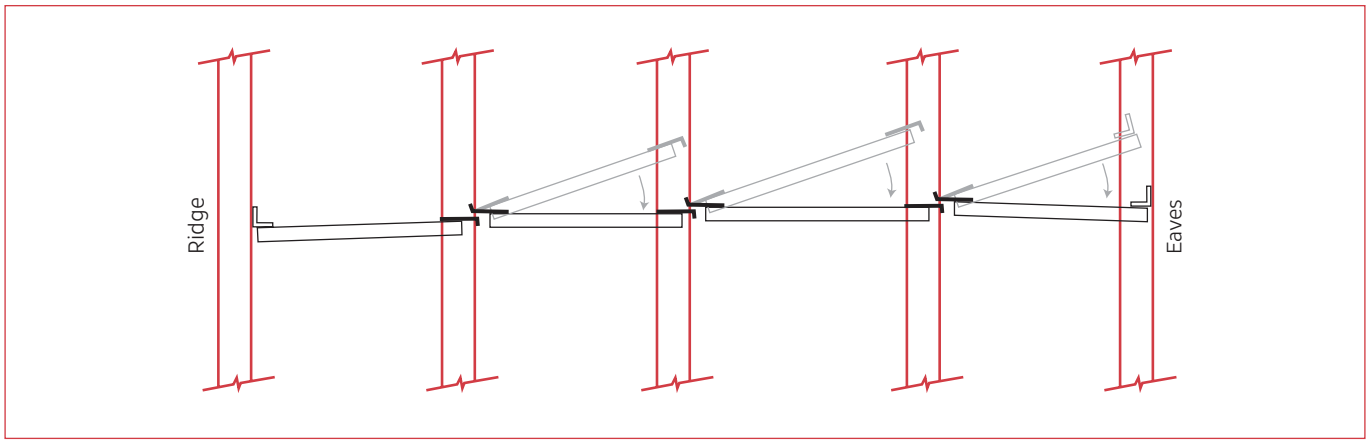
Adjustable Brace channels allow up to 20mm adjustment to be made anywhere in the bracing system, simply by installing this adjustable brace and fully tightening the hexagonal flange bolts.

Note, alternating brace channel and sag rods have been superseded by the use of Fastbrace and/or Bolted Brace Channel systems which run in continuous lines between all purlins/girts.

FASTBRACE INSTALLATION

Installation of Fastbrace starts from the ridge and works down the roof slope, but the first row of Fastbrace must be bolted off on the top purlin before beginning the next row. For clarity, the procedure is illustrated for DHS purlins (girts are similar except the procedure starts at the eave and works down the wall).

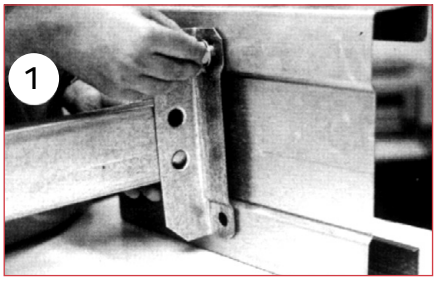
Standard Installation Procedure

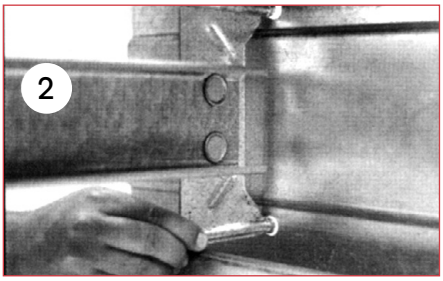


Note: As the eaves and ridge braces are bolted, there is a 25mm offset to the bracing line. This offset can be aligned, refer Fastbrace 2.3.8.1.

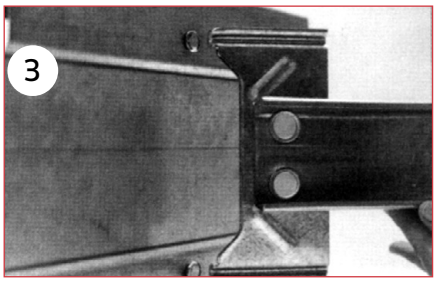
1. The end cleat is bolted to the purlin at the ridge.

   It is critical to ensure that the bolted cleat at the ridge is on the left of the channel component (looking from the ridge down).



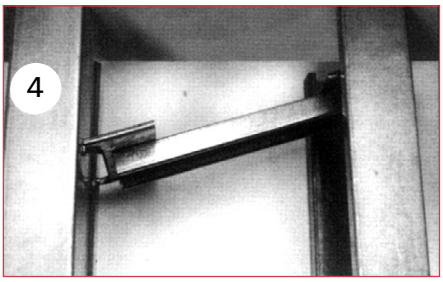


2. The locking tabs at the other end of the brace are then fitted into the second DHS purlin down the rafter and pushed to the right to lock half of the hole (looking from the ridge down).



3. The second brace is then inserted at a 45 degree angle into the other side of the second purlin. The Fastbrace is rotated until square to the purlin, locking the second half of the hole, fully engaging the locking tabs.

   Ensure all locking tabs are fitted into the purlin holes.



4. Fit the other end of the brace into the next purlin. Repeat steps 3 and 4 of the process until the End Brace is bolted to the eave purlin.