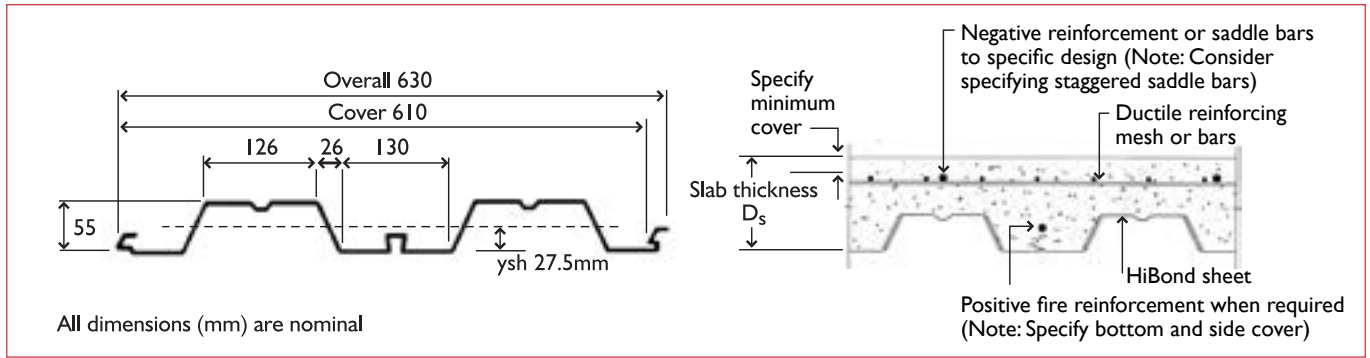


HIBOND 55 SECTION PROPERTIES



FORMWORK PROPERTIES

Hibond 55 Formwork Properties (Per Metre Width)

Thickness (mm)	Weight (kN/m)	Cross Sectional Area, A_p (mm ²)	Design Strength P_y (MPa)	Bending Strength		Web Crushing Strength, P_w (kN)	
				M_c^+ (kNm)	M_c^- (kNm)	End Support	Internal Support
0.75	0.085	1058	550	5.46	6.51	14.52	29.05
0.95	0.108	1340	520	8.93	9.71	21.34	42.68
Thickness (mm)	Shear Strength P_v (kN)	Bending/Web Crushing Interaction Equation at Internal Support Limited by:				Second Moment of Area (10 ⁶ mm ⁴)	
						Single Span I_s	Multispan I_m
0.75	45.1	$F_w/29.05 + M^- / 6.51 < 1.43$				0.493	0.391
0.95	71.6	$F_w/42.68 + M^- / 9.71 < 1.56$				0.605	0.448

Notes:

1. Design strength P_y is 0.84 x ultimate tensile strength.
2. Shear strength values P_v are derived from calculation as per BS 5950.
3. All other values are derived from test results.
4. F_w is the reaction or concentrated load on Hibond 55 rib.
5. M^- is the negative bending moment in the Hibond 55 formwork at the internal support.
6. y_{sh} is the distance from the bottom of the Hibond 55 formwork to the neutral axis.

COMPOSITE FLOOR SLAB PROPERTIES

0.75mm Hibond 55 Composite Floor Slab Properties (Per Metre Width)

D _s (mm)	Weight (kN/m)	I _g (10 ⁶ mm ⁴)		Y _g (mm)		I _{cr} (10 ⁶ mm ⁴)		Y _{cr} (mm)		I _{av} (10 ⁶ mm ⁴)	
		medium	long	medium	long	medium	long	medium	long	medium	long
110	1.99	8.9	5.7	49.1	51.9	4.4	3.7	32.6	40.3	6.6	4.7
120	2.22	11.6	7.3	53.9	56.9	5.5	4.7	35.0	43.4	8.6	6.0
130	2.45	14.7	9.3	58.7	61.8	6.8	5.8	37.3	46.4	10.8	7.5
140	2.68	18.5	11.6	63.6	66.7	8.3	7.1	39.5	49.3	13.4	9.3
150	2.91	22.8	14.2	68.4	71.7	10.0	8.5	41.5	52.0	16.4	11.4
160	3.14	27.9	17.3	73.3	76.6	11.8	10.1	43.5	54.6	19.8	13.7
170	3.37	33.6	20.8	78.2	81.6	13.7	11.8	45.4	57.2	23.7	16.3
180	3.60	40.1	24.7	83.1	86.6	15.9	13.7	47.3	59.6	28.0	19.2
190	3.83	47.4	29.1	88.0	91.5	18.2	15.8	49.1	62.0	32.8	22.4
200	4.06	55.6	34.0	93.0	96.5	20.7	18.0	50.8	64.3	38.2	26.0

0.95mm Hibond 55 Composite Floor Slab Properties (Per Metre Width)

D _s (mm)	Weight (kN/m)	I _g (10 ⁶ mm ⁴)		Y _g (mm)		I _{cr} (10 ⁶ mm ⁴)		Y _{cr} (mm)		I _{av} (10 ⁶ mm ⁴)	
		medium	long	medium	long	medium	long	medium	long	medium	long
110	2.01	9.4	6.1	50.1	53.4	5.2	4.3	35.6	43.6	7.3	5.2
120	2.24	12.1	7.8	54.9	58.4	6.6	5.4	38.3	47.1	9.3	6.6
130	2.47	15.4	9.9	59.8	63.4	8.1	6.8	40.8	50.4	11.8	8.3
140	2.70	19.3	12.3	64.7	68.4	9.9	8.3	43.2	53.6	14.6	10.3
150	2.93	23.8	15.1	69.5	73.4	11.9	9.9	45.6	56.6	17.8	12.5
160	3.16	29.0	18.3	74.5	78.4	14.0	11.8	47.8	59.5	21.5	15.1
170	3.39	34.9	21.9	79.4	83.5	16.4	13.9	49.9	62.4	25.7	17.9
180	3.62	41.6	26.0	84.3	88.5	19.0	16.1	52.0	65.1	30.3	21.1
190	3.86	49.1	30.6	89.2	93.5	21.9	18.6	54.0	67.8	35.5	24.6
200	4.09	57.5	35.8	94.2	98.5	24.9	21.2	56.0	70.4	41.2	28.5

Notes:

- D_s is the overall thickness of the composite floor slab.
- Composite floor slab weights are based on a dry concrete density of 2350kg/m³ with no allowance for ponding.
- Section properties are presented in terms of equivalent steel units as follows:
 - Medium term superimposed loads are based on 2/3 short term and 1/3 long term load (i.e. modular ratio = 10) and apply to buildings of normal usage.
 - Long term superimposed loads are based on all loads being long term (i.e. modular ratio = 18) and apply to storage loads and loads which are permanent in nature.
- I_g is the second moment of area of the Hibond 55 composite floor slab for the gross section.
- I_{cr} is the second moment of area of the Hibond 55 composite floor slab for the cracked section.
- I_{av} is the average value of gross (I_g) and cracked (I_{cr}) sections to be used for deflection calculations.
- Y_g is the distance from top of composite floor slab to neutral axis of the Hibond 55 composite floor slab for the gross section.
- Y_{cr} is the distance from top of composite floor slab to neutral axis of the Hibond 55 composite floor slab for the cracked section.