

HIBOND 80 ACOUSTIC PERFORMANCE

SCOPE

This section provides guidelines for specifiers and constructors who require noise control systems for residential applications such as separate multi-unit dwellings or single dwellings, commercial applications such as retail spaces, offices and institutional buildings. It is not intended that these guidelines replace the need for specialist acoustic design to meet the specified sound insulation performance for the building.

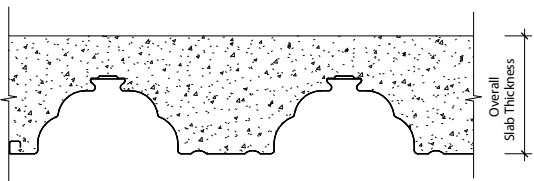
A Dimond Structural Noise Control System consists of a Hibond 80 composite floor slab with a selected USG ceiling system, GIB® standard plasterboard ceiling linings, selected floor coverings and the specific inclusion of a cavity absorber. It must be noted that the floor covering is an essential aspect of the performance of the system.

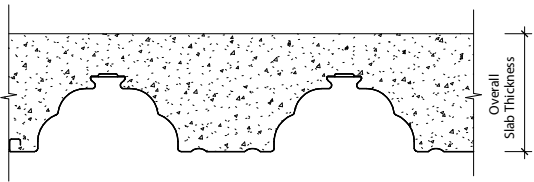
The information in this section is based on laboratory testing of a 120mm Hibond 55 composite floor slab carried out by the University of Auckland, Acoustics Testing Service and opinions on expected acoustic performance by Marshall Day Acoustics Limited Report Rp 001 2016284A. More information is available on request.

The systems set out in this section provide the expected sound transmission performance under laboratory conditions. However in practical applications on site there is a significant element of subjectivity to interpreting noise levels within rooms. No matter how low a sound level might be, if it is intrusive upon a person's privacy, then it is likely to cause annoyance. No practical system can guarantee complete sound insulation and completely satisfy everyone.

Introduction of light fittings, vents or other floor or ceiling penetrations will reduce the acoustic performance of the system, requiring specific assessment in each case.

Hibond 80 Composite Floor Slab – Bare Composite Floor Slab

System Description: Steel Decking: 0.75, 0.95, 1.05, 1.15mm Hibond 80 Composite Floor Slab: Overall thickness (mm)	
Overall Composite Floor Slab Thickness (mm)	STC
150	47
175	49
200	51

System Description: Steel Decking: 0.75, 0.95, 1.05, 1.15mm Hibond 80 Composite Floor Slab: 150mm overall thickness		
Floor Surface Treatment	STC	IIC
No Covering	47	27
14mm timber on Bostic Ultraset adhesive	47	45
14mm timber on 3mm Acoustimat foam	47	48
6mm Cork flooring	47	45
Gerfloor Taralay Comfort Imprimes 43	47	49
Carpet, Hirst 22oz Stratron Collection	47	57
Carpet, Hirst 28oz Stratron Collection	47	58
Carpet, 40oz with 7lb rebond pad	47	62

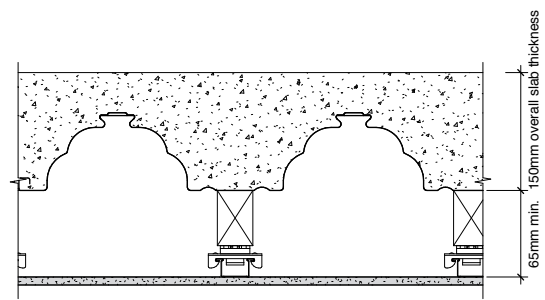
Notes:

1. The acoustic opinion has a margin of error of +/- 3 STC/IIC points
2. IIC result depends on the quality of the floor covering material and installation
3. All adhesives must be applied to manufacturers instructions, and Bostic Ultraset adhesive dry film thickness must not be less than 1.9mm
4. It is prudent to allow a 5 point reduction for expected field STC and IIC when compared to the above performance expected in laboratory conditions. This is considered a reasonable compensation to allow for flanking paths at junctions and construction variations.

Hibond 80 Composite Floor Slab with Direct Fix Ceiling System - Non-Insulated

System Description:

Steel Decking: 0.75, 0.95, 1.05, 1.15mm Hibond 80
 Composite Floor Slab: 150mm overall thickness
 Ceiling System: Potters Direct Fix with sound isolation clips
 USG furring channel at maximum 600mm centres
 Ceiling Lining: 13mm GIB standard plasterboard in one or two layers

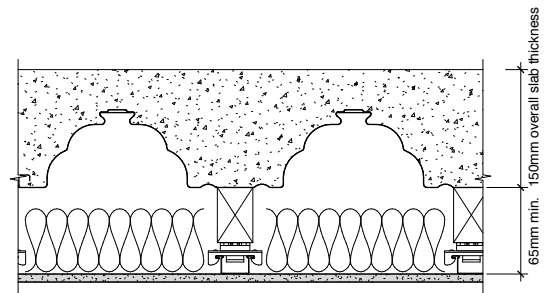


Floor Surface Treatment	Ceiling Lining			
	One Layer 13mm GIB		Two Layers 13mm GIB	
	STC	IIC	STC	IIC
No Covering	59	42	62	44
14mm strip timber on Bostic Ultraset adhesive	59	47	62	49
14mm timber on 3mm Acoustimat foam	59	48	62	50
6mm Cork flooring	59	48	62	50
Gerfloor Taralay Comfort Imprimes 43	59	50	62	52
Carpet, Hirst 22oz Stratron Collection	59	51	62	53
Carpet, Hirst 28oz Stratron Collection	59	52	62	54
Carpet, 40oz with 7lb Rebond pad	59	67	62	69

Hibond 80 Composite Floor Slab with Direct Fix Ceiling System - Insulated

System Description:

Steel Decking: 0.75, 0.95, 1.05, 1.15mm Hibond 80
 Composite Floor Slab: 150mm overall thickness
 Insulation Blanket: 75mm thick R1.8 Pink Batts
 Ceiling System: Potters Direct Fix with sound isolation clips
 USG furring channel at maximum 600mm centres
 Ceiling Lining: 13mm GIB standard plasterboard in one or two layers



Floor Surface Treatment	Ceiling Lining			
	One Layer 13mm GIB		Two Layers 13mm GIB	
	STC	IIC	STC	IIC
No Covering	68	52	71	54
14mm strip timber on Bostic Ultraset adhesive	68	57	71	59
14mm timber on 3mm Acoustimat foam	68	58	71	60
6mm Cork flooring	68	58	71	60
Gerfloor Taralay Comfort Imprimes 43	68	60	71	62
Carpet, Hirst 22oz Stratron Collection	68	61	71	63
Carpet, Hirst 28oz Stratron Collection	68	62	71	64
Carpet, 40oz with 7lb Rebond pad	68	77	71	79

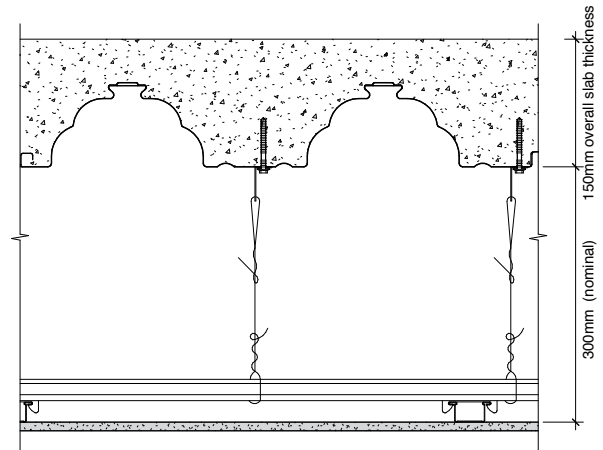
Notes:

1. The acoustic opinion has a margin of error of +/- 3 STC/IIC points
2. IIC result depends on the quality of the floor covering material and installation
3. All adhesives must be applied to manufacturers instructions, and Bostic Ultraset adhesive dry film thickness must not be less than 1.9mm
4. It is prudent to allow a 5 point reduction for expected field STC and IIC when compared to the above performance expected in laboratory conditions. This is considered a reasonable compensation to allow for flanking paths at junctions and construction variations.

Hibond 80 Composite Floor Slab with Suspended Ceiling System - Non-Insulated

System Description:

Steel Decking: 0.75, 0.95, 1.05, 1.15mm Hibond 80
 Composite Floor Slab: 150mm overall thickness
 Ceiling System: Don suspended ceiling system
 USG furring channel at maximum 600mm centres
 Ceiling Lining: 13mm GIB standard plasterboard in one or two layers

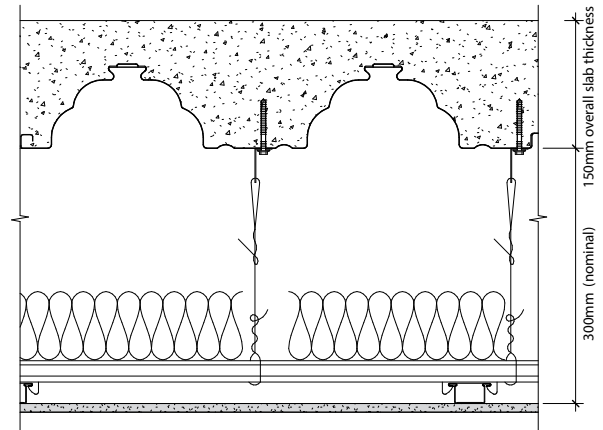


Floor Surface Treatment	Ceiling Lining			
	One Layer 13mm GIB		Two Layers 13mm GIB	
	STC	IIC	STC	IIC
No Covering	54	46	57	48
14mm strip timber on Bostic Ultraset adhesive	54	52	57	54
14mm timber on 3mm Acoustimat foam	54	54	57	56
6mm Cork flooring	54	53	57	55
Gerfloor Taralay Comfort Imprimes 43	54	55	57	57
Carpet, Hirst 22oz Stratron Collection	54	56	57	58
Carpet, Hirst 28oz Stratron Collection	54	57	57	59
Carpet, 40oz with 7lb Rebond pad	54	72	57	74

Hibond 80 Composite Floor Slab with Suspended Ceiling System - Insulated

System Description:

Steel Decking: 0.75, 0.95, 1.05, 1.15mm Hibond 80
 Composite Floor Slab: 150mm overall thickness
 Insulation Blanket: 75mm thick R1.8 Pink Batts
 Ceiling System: Don suspended ceiling system
 USG furring channel at maximum 600mm centres
 Ceiling Lining: 13mm GIB standard plasterboard in one or two layers



Floor Surface Treatment	Ceiling Lining			
	One Layer 13mm GIB		Two Layers 13mm GIB	
	STC	IIC	STC	IIC
No Covering	67	46	70	48
14mm strip timber on Bostic Ultraset adhesive	67	65	70	67
14mm timber on 3mm Acoustimat foam	67	67	70	69
6mm Cork flooring	67	64	70	66
Gerfloor Taralay Comfort Imprimes 43	67	67	70	69
Carpet, Hirst 22oz Stratron Collection	67	70	70	72
Carpet, Hirst 28oz Stratron Collection	67	72	70	74
Carpet, 40oz with 7lb Rebond pad	67	82	70	84

Notes:

1. The acoustic opinion has a margin of error of +/- 3 STC/IIC points
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