ENGINEERED BUILDING PRODUCTS

I-Beam HANGERS

NEW Enhanced Capacity with YELLOW MiTek 40 x 3.75mm nails

MiTek®

mitek.com.au

FOR FACE AND TOP FIXING OF I-BEAMS TO BEAMS

APPLICATION:

The I-BeamHanger FaceFix & TopFix Have been developed to provide an effective method of fixing timber I-Beams to supporting timber beams. Available in various depths and widths, there is an I-BeamHanger suitable for every I-Beam hanging situation.

USES

- I-BeamHangers provide a simple but effective way to fix timber I-Beams to supporting timber beams.

ADVANTAGES

- Designed to accommodate a wide range of I-Beam sizes.
- Fast and simple fixing method, providing a reliable fixing capacity.
- No drilling required.
- Skew nailing to bottom to prevent delamination of laminated bottom chords.

SPECIFICATIONS:

Steel Grade	**G300**
Thickness (Total Coated)	**1.20 mm**
Galvanized Coating	**Z275**
Nails / Yellow	**MiTek 40mm x 3.75mm hot dipped galvanized reinforced head.**
Screws (for IBHF only)	**MiTek MSA1430 or MSA1465 anti-split self-drilling HD galvanized screws.**
Product Code	**IBHF (FaceFix) IBHT (TopFix)**

This Engineered Building Product has been designed and manufactured in accordance with ISO 9001 and meets all the requirements of the National Construction Code Series and Australian Standards.

Certified System
Quality
ISO 9001

FOR FACE FIXING OF I-BEAMS TO BEAMS

The I-BeamHanger FaceFix has been developed to provide an effective method of fixing timber I-Beams to supporting timber beams.

SIZES:

Use Table 1 to select an appropriate I-BeamHanger size.

Depth:

The depth of I-BeamHanger required will depend on:

1. **The depth of the I-Beam to be supported**
2. **The depth of the supporting beam**
3. **The type of fixing required, eg.**
   a) **Face fix is suitable for sawn timber beams**
   b) **Top or wrap-over is required for steel beams with timber plates.**

Width:

Select an I-BeamHanger width which is the nearest to but larger than the width of the I-Beam supported.

Note: Total gap between I-Beam and supporting bracket should not exceed 4mm.

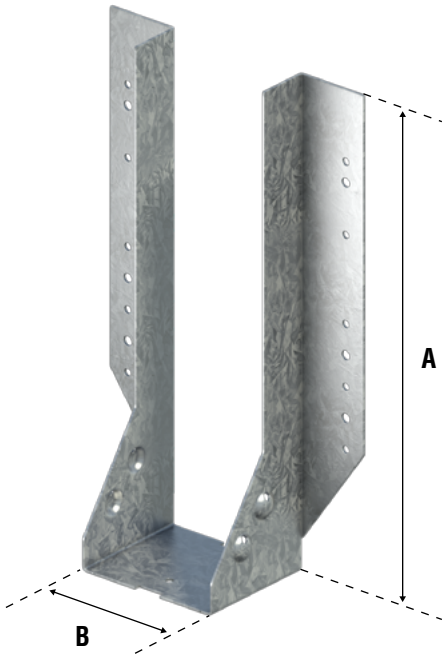


Table 1. I-BeamHanger Size & Fixing Selection

Product Code	Maximum I-Beam Thickness (mm)	I-Beam Depth (mm)		Hanger Dimensions (mm)		Fixing Options into Supporting Beams*		
		Min.	Max.	A	B	40 x ø3.75 Nails	MSA1465 Screws	MSA1430 Screws
IBHF20050	47	199	214	198	48	8	4	6
IBHF20065	63	191	206	190	65	8	4	6
IBHF20070	70	188	203	187	71	8	4	6
IBHF20090	90	199	214	198	91	8	4	6
IBHF22045	45	221	236	220	46	8	4	6
IBHF24040	40	237	252	236	41	10	6	6
IBHF24050	47	234	249	233	48	10	6	6
IBHF24055	52	232	247	231	53	10	6	6
IBHF24060	58	229	244	228	59	10	6	6
IBHF24065	64	240	255	239	65	10	6	6
IBHF24070	70	237	252	236	71	10	6	6
IBHF24090	90	238	253	237	91	10	6	6
IBHF30040	40	297	312	296	41	12	6	8
IBHF30050	47	300	315	299	48	12	6	8
IBHF30055	52	298	313	297	53	12	6	8
IBHF30060	58	295	310	294	59	12	6	8
IBHF30065	64	292	307	291	65	12	6	8
IBHF30070	70	289	304	288	71	12	6	8
IBHF30090	90	299	314	298	91	12	6	8
IBHF30095	95	296	311	295	96	12	6	8
IBHF36060	58	357	372	356	59	14	8	10
IBHF36065	64	354	369	353	65	14	8	10
IBHF36090	90	355	370	354	91	14	8	10
IBHF40065	63	395	410	394	65	14	8	10
IBHF40090	90	392	407	391	91	14	8	10

*An additional 2 nails are required for fixing to bottom flange.

Table 2. Maximum Limit State Design Capacity (kN) and Maximum Floor Area (m^2)

Timber Joint Group	Fixing Options into Supporting Beams*			DL Only k_1=0.57	DL + Foor LL k_1=0.69	Maximum Floor Area (m^2)
	40 x ø3.75 Nails	MSA1465 Screws	MSA1430 Screws			
J2	8	4	6	7.2	8.7	3.0
	10	6	6	9.0	10.9	3.8
	12	6	8	10.8	13.1	4.5
	14	8	10	12.6	15.2	5.3
J3	8	4	6	5.1	6.2	2.1
	10	6	6	6.4	7.7	2.7
	12	6	8	7.7	9.3	3.2
	14	8	10	8.9	10.8	3.7
J4	8	4	6	3.6	4.3	1.5
	10	6	6	4.5	5.4	1.8
	12	6	8	5.4	6.5	2.2
	14	8	10	6.3	7.6	2.6
J5	8	4	6	2.7	3.3	1.1
	10	6	6	3.4	4.1	1.4
	12	6	8	4.1	4.9	1.7
	14	8	10	4.8	5.8	2.0
J6	8	4	6	2.0	2.5	0.8
	10	6	6	2.5	3.1	1.0
	12	6	8	3.1	3.7	1.2
	14	8	10	3.6	4.3	1.5
JD2	8	4	6	7.2	8.7	3.0
	10	6	6	9.0	10.9	3.8
	12	6	8	10.8	13.1	4.5
	14	8	10	12.6	15.2	5.3
JD3	8	4	6	7.2	8.7	3.0
	10	6	6	9.0	10.9	3.8
	12	6	8	10.8	13.1	4.5
	14	8	10	12.6	15.2	5.3
JD4	8	4	6	5.1	6.2	2.1
	10	6	6	6.4	7.8	2.7
	12	6	8	7.7	9.3	3.2
	14	8	10	9.0	10.9	3.8
JD5	8	4	6	4.2	5.2	1.7
	10	6	6	5.3	6.4	2.2
	12	6	8	6.3	7.7	2.7
	14	8	10	7.4	9.0	3.1
JD6	8	4	6	3.2	3.9	1.3
	10	6	6	4.0	4.8	1.6
	12	6	8	4.8	5.8	2.0
	14	8	10	5.6	6.8	2.3

*An additional 2 nails are required for fixing to bottom flange.

Values in this table incorporate the Category 1 capacity factor (Ø) for houses. For other categories, multiply the design capacities by the following factors. Refer to AS1720.1 for a full definition of each category.

Category	1	2	3
Adjustment factor	1.00	0.94	0.88

Design capacities have been obtained from laboratory testing and procedures given in AS1720.1.

Notes:

1. Maximum Floor Area = 0.5 (Joist Span x Joist Spacing).
2. Maximum Floor Areas are based on Floor Dead Load of 0.5kPa + Floor Live Load of 1.5kPa for domestic floor.
3. Base capacity on joint group of supporting member.

Step 1:

For I-Beams equal to or less than 225mm depth

Fix I-BeamHanger with 8/40 x 3.75 dia. MiTek reinforced head nails to face of supporting beam through small holes. Optionally, fix I-BeamHanger with MITek MSA1465 or MSA1430 screws as specified in Table 1, through the large holes. Evenly space nails or screws over each flange.

For I-Beams greater than 225mm but less than 250mm in depth

Fix I-BeamHanger with 10/40 x 3.75 dia. MiTek reinforced head nails to face of supporting beam through small holes. Optionally, fix I-BeamHanger with MiTek MSA1465 or MSA1430 screws as specified in Table 1, through the large holes. Evenly space nails or screws over each flange.

For I-Beams greater than 250mm but less than 300mm in depth

Fix I-BeamHanger with 12/40 x 3.75 dia. MiTek reinforced head nails to face of supporting beam through small holes. Optionally, fix I-BeamHanger with MiTek MSA1465 or MSA1430 screws as specified in Table 1, through the large holes. Evenly space nails or screws over each flange.

For I-Beams greater than 300mm in depth

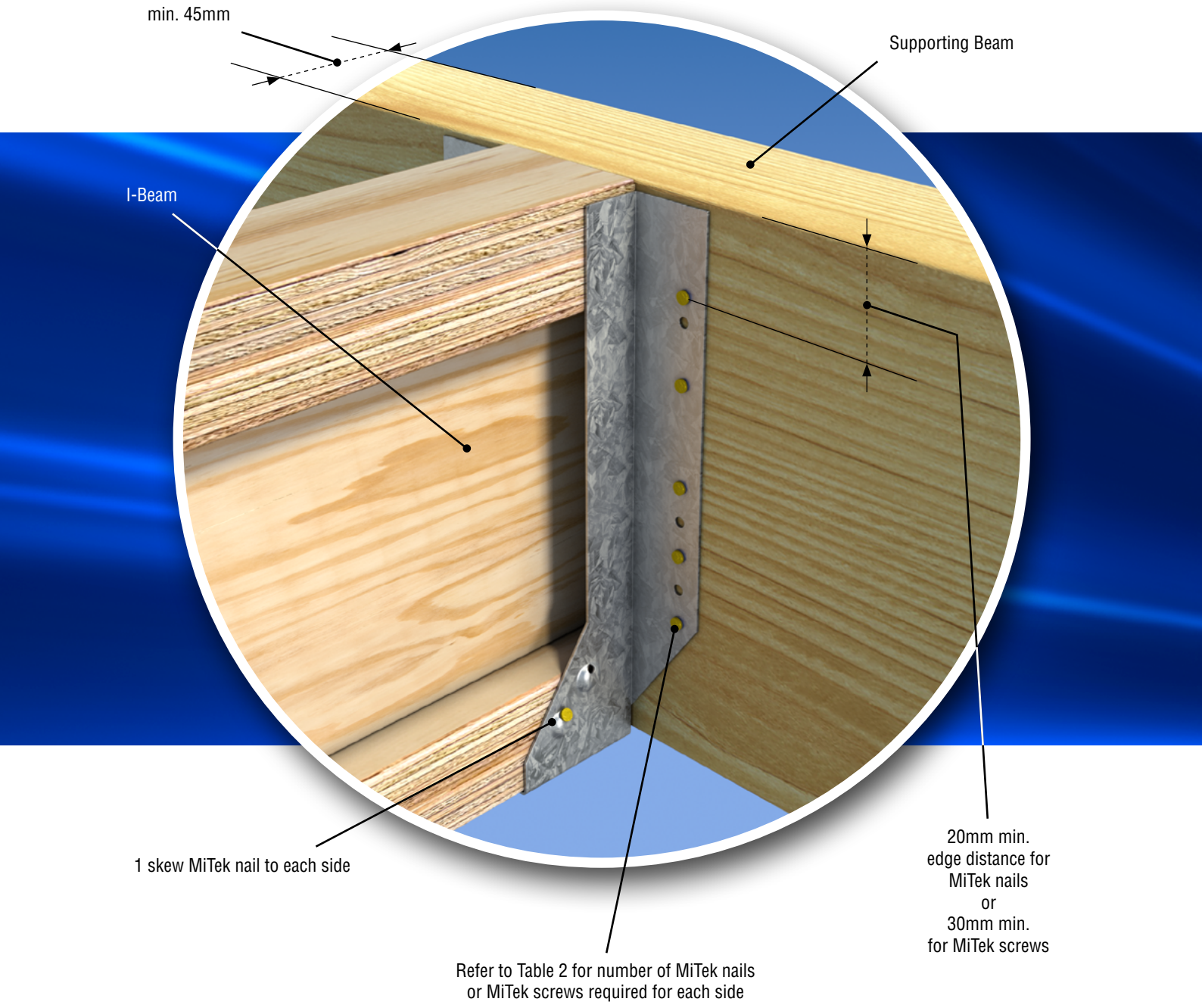
Fix I-BeamHanger with 14/40 x 3.75 dia. MiTek reinforced head nails to face of supporting beam through small holes. Optionally, fix I-BeamHanger with MiTek MSA1465 or MSA1430 screws as specified in Table 1, through the large holes. Evenly space nails or screws over each flange.

Step 2:

Fix bottom I-Beam flange using 2/40 x 3.75 dia. MiTek reinforced head nails. Select one dimple each side of the I-Beam which will allow a 35mm long nail to be driven fully home at a 45° angle.

Notes:

1. Ensure a minimum edge distance of 20mm for nails or 30mm for screws is maintained to all edges of supporting beam.
2. Ensure the hanger is seated properly, with the hanger sitting vertically.
3. Use only MiTek 40 x 3.75 galvanized reinforced head nails, MiTek MSA1465 or MSA1430 screws.
4. Ensure all MiTek nails or MiTek screws are fixed before loading hanger.



FOR TOP FIXING OF I-BEAMS TO BEAMS

The I-BeamHanger TopFix has been developed to provide an effective method of fixing timber I-Beams to steel supporting beams.

SIZES:

Use Table 3 to select an appropriate I-BeamHanger size.

Depth:

The depth of I-BeamHanger required will depend on:

1. **The depth of the I-Beam to be supported**
2. **The depth of the supporting beam**
3. **The type of fixing required, eg.**
   a) **Face fix is suitable for sawn timber beams**
   b) **Top or wrap-over is required for steel beams with timber plates.**

Width:

Select an I-BeamHanger width which is the nearest to but larger than the width of the I-Beam supported.

Note: Total gap between I-Beam and supporting bracket should not exceed 4mm.

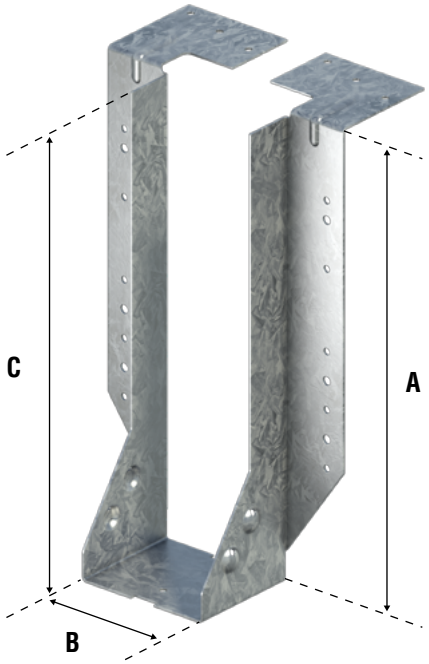
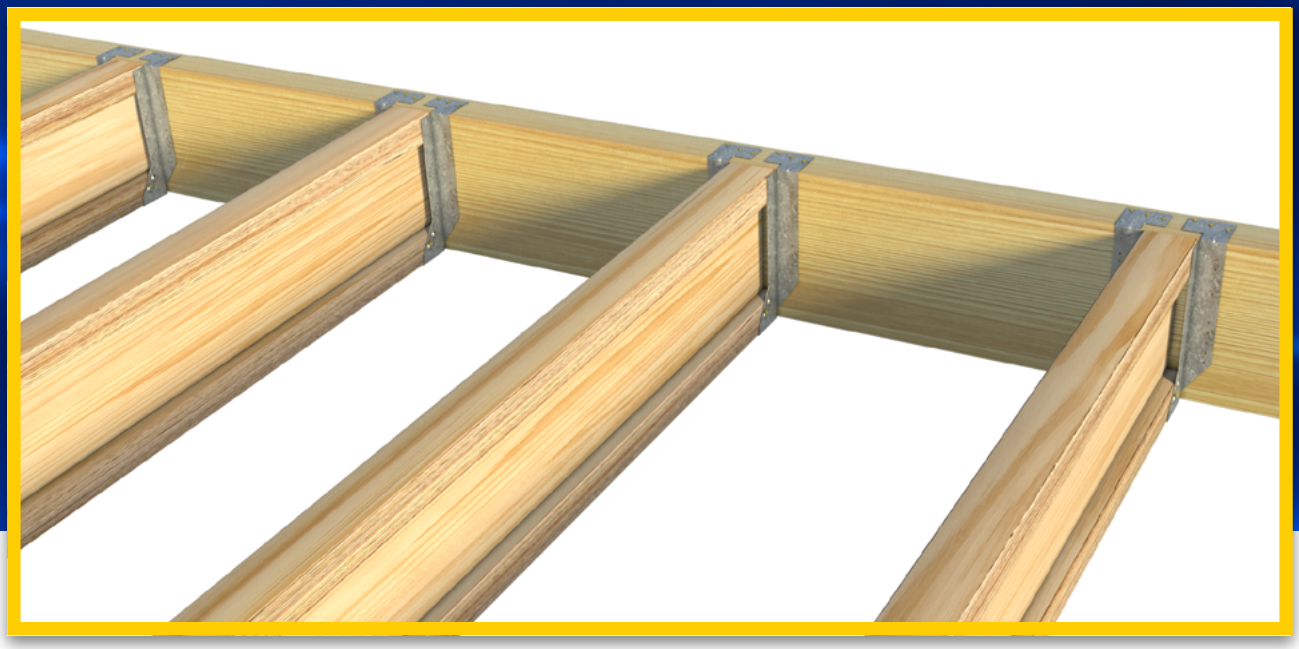


Table 3. I-BeamHanger Size Selection

Product Code	Max. I-Beam Thickness (mm)	Hanger Dimensions (mm)		
		A (I-Beam Depth)	B	C
IBHT20050	47	200	48	198
IBHT24050	47	240	48	233
IBHT24065	64	240	65	225
IBHT24090	90	240	91	228
IBHT30050	47	301	48	301
IBHT30055	52	300	53	299
IBHT30065	64	300	65	293
IBHT30070	70	300	71	290
IBHT30090	90	300	91	298
IBHT36060	58	360	59	357
IBHT36065	64	360	65	354
IBHT36090	90	360	91	341
IBHT40090	90	400	91	394

Table 4. Maximum Limit State Design Capacity (kN) and Maximum Floor Area (m^2)			
Timber Joint Group	Top Fixing - 6 Nails to Supporting Beam		
	DL $k_1 = 0.57$	DL + FLL $k_1 = 0.69$	Max. Floor Area (m^2)
J2	6.7	8.1	2.8
J3	4.7	5.8	2.0
J4	3.3	4.0	1.4
J5	2.5	3.1	1.0
J6	1.9	2.3	0.8
JD2	6.7	8.1	2.8
JD3	6.7	8.1	2.8
JD4	4.8	5.8	2.0
JD5	3.9	4.8	1.6
JD6	3.0	3.6	1.2



Values in this table incorporate the Category 1 capacity factor (Ø) for houses. For other categories, multiply the design capacities by the following factors. Refer to AS1720.1 for a full definition of each category.

Category	1	2	3
Adjustment factor	1.00	0.94	0.88

Design capacities have been obtained from laboratory testing and procedures given in AS1720.1.

Notes:

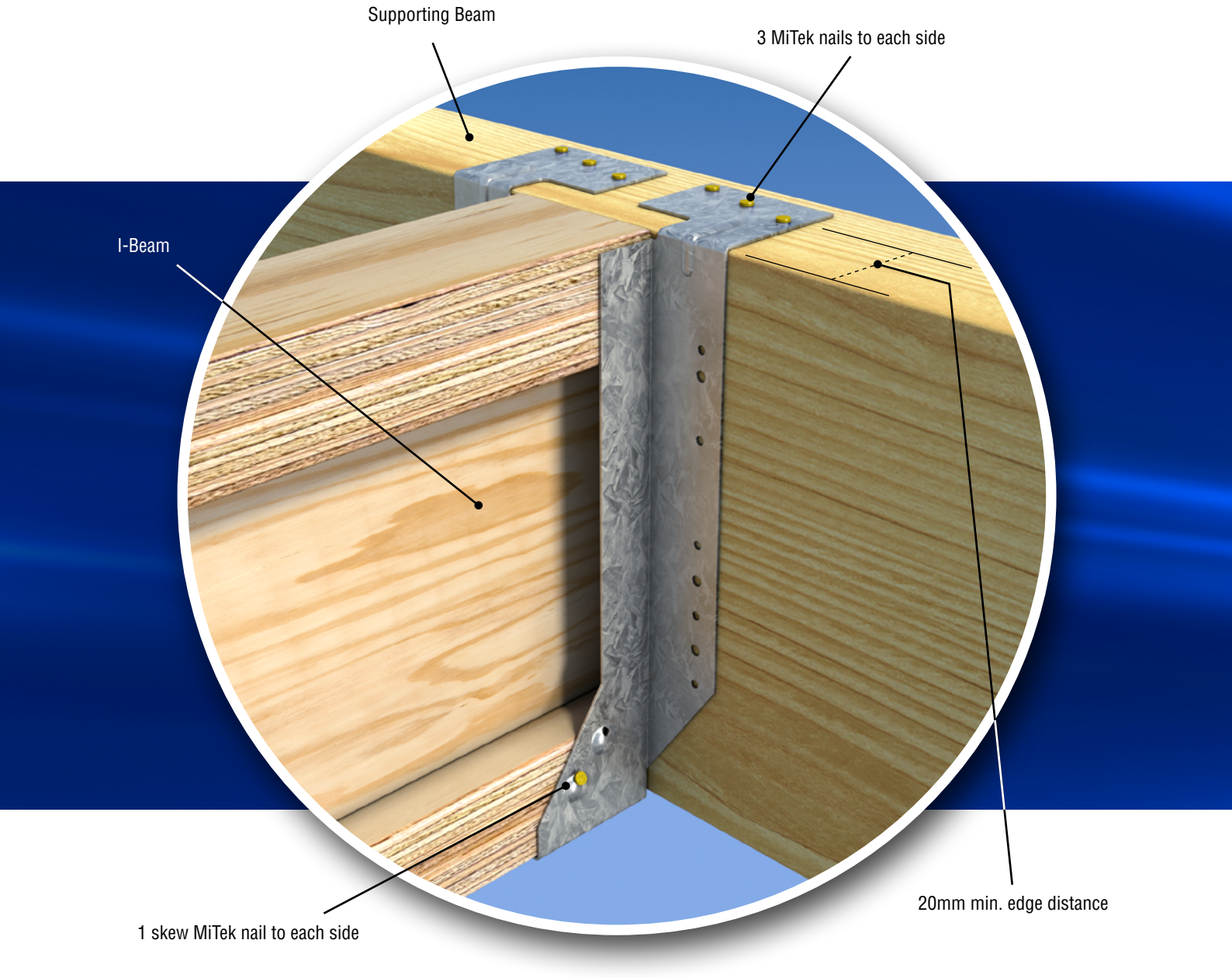
1. Maximum Floor Area = 0.5 (Joist Span x Joist Spacing).
2. Maximum Floor Areas are based on Floor Dead Load of 0.5kPa + Floor Live Load of 1.5kPa for domestic floor.
3. Base capacity on joint group of supporting member.

TopFix I-BeamHanger - Installation

1. Fix I-BeamHanger to top of timber plate with 6/40 x 3.75 dia. MiTek reinforced head nails.
2. Fix I-Beam flange using 2/40 x 3.75 dia. MiTek reinforced head nails. Select one dimple each side of the I-Beam which will allow a 35mm long nail to be driven fully home at a 45° angle.

NOTES:

1. Ensure a minimum edge distance of 20mm is maintained to all edges of supporting beam.
2. Ensure the hanger is seated properly, with the hanger sitting vertically.
3. If a top plate is being used on a steel beam, ensure it is of sufficient depth. ie 45mm minimum.
4. Use only MiTek 40 x 3.75 galvanized reinforced head nails.
5. Ensure bend at the top of hanger is hard against edge of plate.
6. Ensure all MiTek nails are fixed before loading hanger.



For more information about MiTek's Engineered Building Products or any other MiTek products or your nearest licensed MiTek fabricator, please call your local state office or visit: **mitek.com.au**

HOME OF GANG-NAIL BUILDING SYSTEMS

VIC (03) 8795 8888 **NSW** (02) 8525 8000 **QLD** (07) 3861 2100 **SA** (08) 8234 1326 **WA** (08) 9412 3534

MiTek®

mitek.com.au