TRAFALGAR

Maxilite Steel Fire

Protection Technical Manual

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MAXILITE
Steel Protection

Product Overview

Maxilite is a lightweight, high performance fire rated board. It is a calcium silicate based product, bonded together with non-organic binders, that meets all requirements for asbestos, volatile organic compounds (VOC's) and ozone depleting potential (ODP) Compounds. Maxilite boards are available in a number of discrete thicknesses for use in the fire protection of structural steel. Maxilite has been tested to various local and international test standards and is suitable for a large range of steel sizes and types.

How does it work?

Maxilite is an extremely effective insulating refractory board. The Maxilite board is stable under high temperature stress and remains strong and crack free, even when exposed to fully developed fires. The Maxilite board provides a thermal insulation as well as a heat sinking capacity for steel.

Key Features

- Lightweight
- Low thermal conductivity
- Up to 4 hours fire-rated protection
- Fully Tested and Approved for the Australian market
- Various methods of installation
- No mess

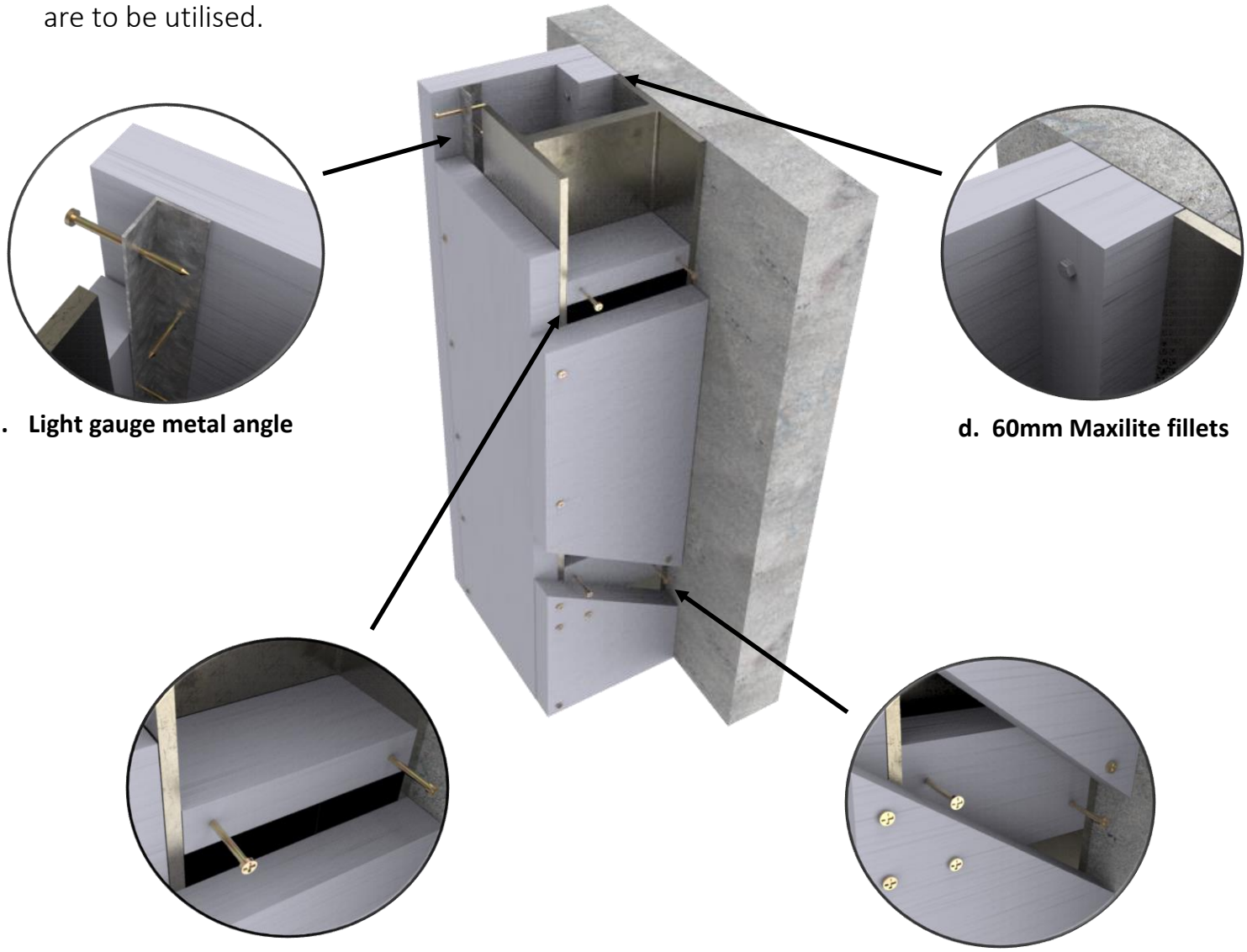
To maintain market leadership, Trafalgar stay up to date with the latest technologies and trends in passive fire protection and contemporary construction techniques. **We are 70 years strong and still innovating!**

Section A – Columns

A.1 Encasement Construction

The following section compiles the approved design details for Maxilite steel column encasements. For steel column encasement solutions not found within this section, or technical questions relating to these details please contact Trafalgar.

Please refer to section A.2 “Encasement Layouts” to see where each of the following details are to be utilised.



a. Light gauge metal angle

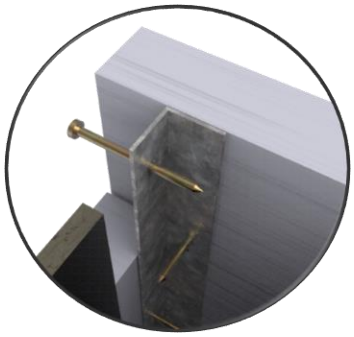
b. 60mm thick Maxilite noggins

c. Maxilite cover strips

d. 60mm Maxilite fillets

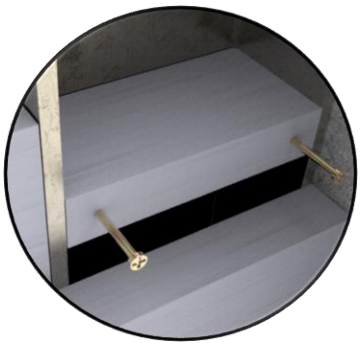
Section A – Columns

A.1 Encasement Construction

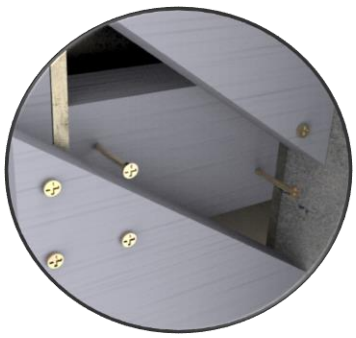


Key:

a. Light gauge metal angle
   - 50x50x0.9mm Steel angle located within the encasement construction, as per the encasement layouts in section A.2



b. 60mm thick Maxilite noggins
   - Noggins are cut to fit tightly within the web cavity and friction fit into position. They are to be fixed 100mm from each end of the board and at maximum 650mm centres along the length of the board



c. Maxilite cover strips
   - 100mm wide Maxilite cover strips are to be applied to all joins between adjacent Maxilite boards, located either outside or within the column encasement
   - Alternatively, a backing strip noggin can be utilised, eliminating the need for both noggins and cover strips within the web cavity. Simply construct Noggins from 100mm wide by 60mm thick Maxilite and friction fit between the flanges of the steel column. Position noggins to sit centrally behind adjacent board joints and at maximum 760mm centres along the length of the board.

d. 60mm Maxilite fillets
   - 60mm wide Maxilite fillets located within the encasement construction, as per the encasement lavouts in section A.2

Section A – Columns

A.2 Encasement Layouts

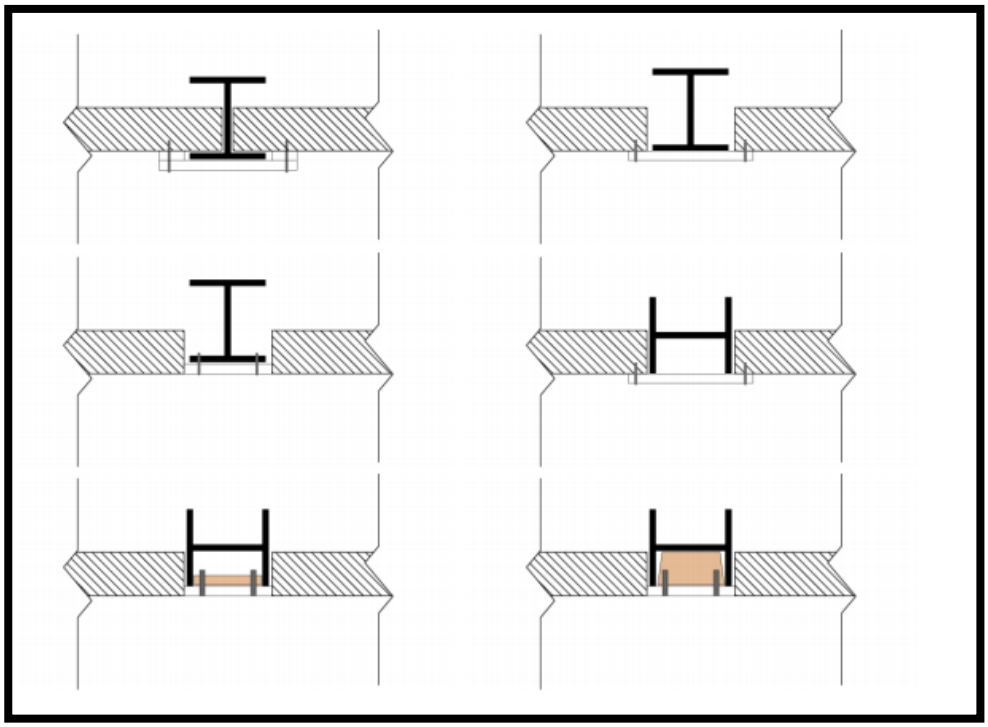


Figure 1 - One Sided Column Encasements

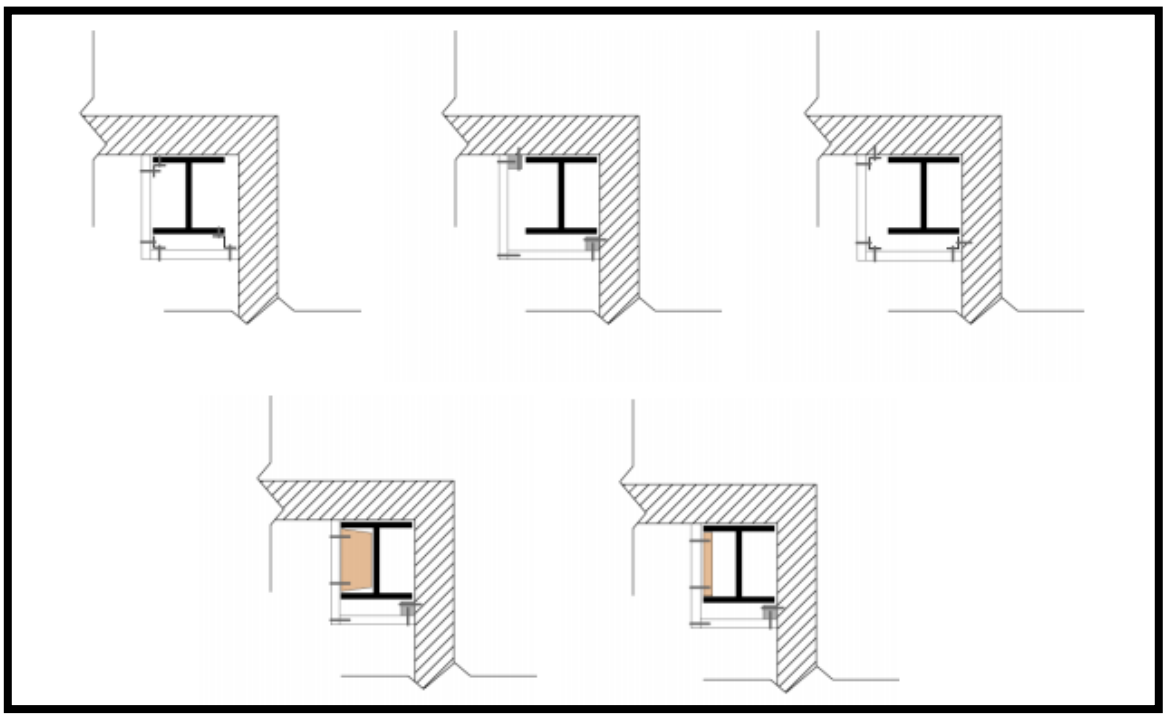


Figure 2 - Two Sided Column Encasements

Section A – Columns

A.2 Encasement Layouts

Figure 3 - Three Sided Column Encasements

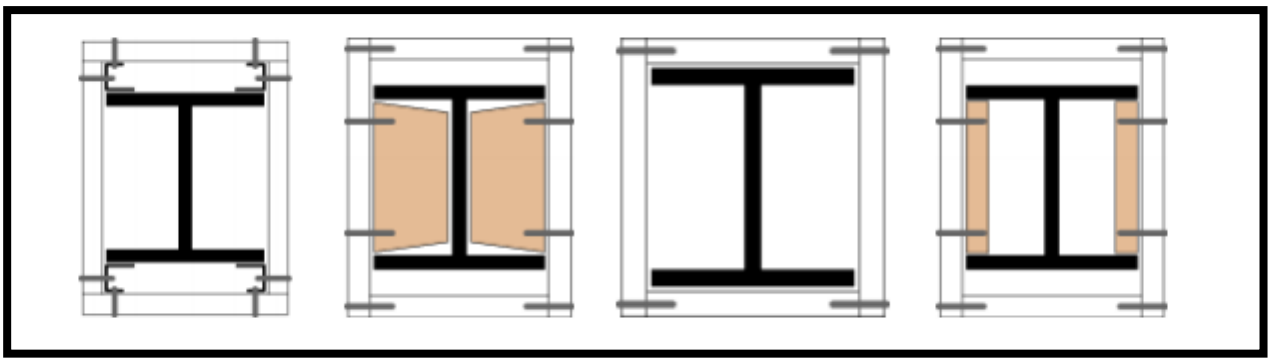


Figure 4 - Four Sided Column Encasements

Section A – Columns

A.3 Installation Procedure

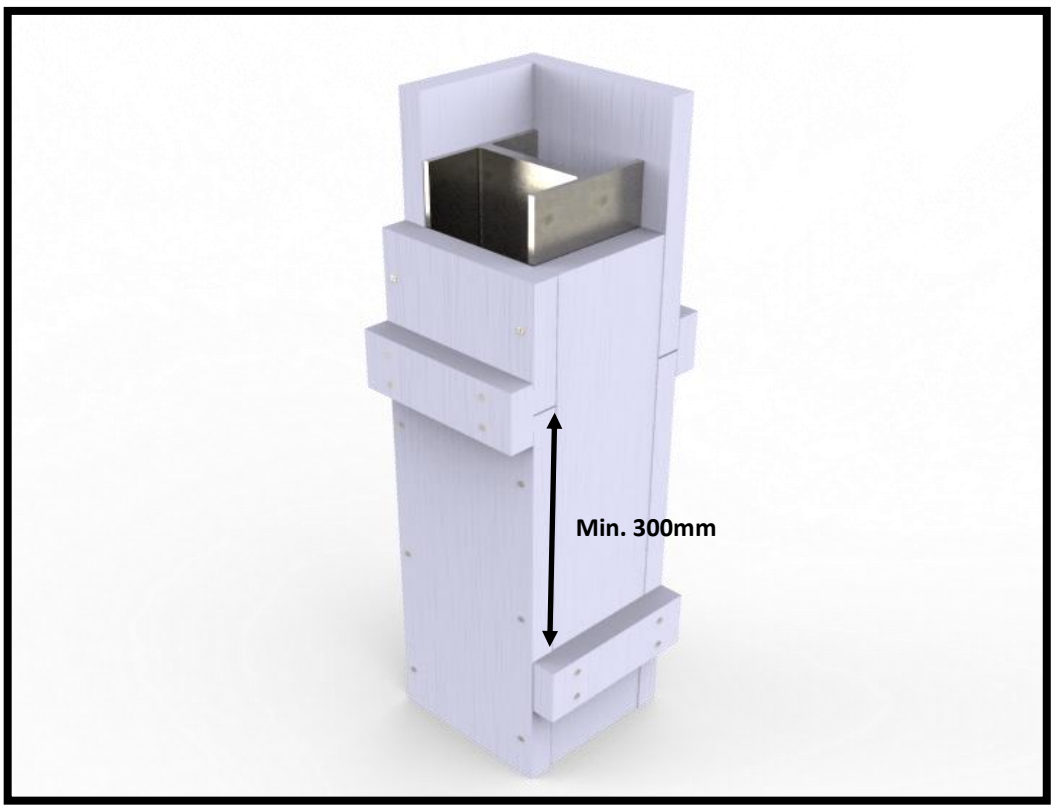


Figure 5 – Column Encasement Showing Cover strips and Board Joint Stagger

Maxilite Board	1. Calculate the appropriate Maxilite board thickness needed to achieve the desired FRL. This can be found using the 'Required Maxilite Thickness' tables at the back of this technical manual.
Encasement Layout	2. Columns are to be encased on 1,2,3 or all 4 sides depending on the position of surrounding wall constructions. 3. Construct column encasement using all necessary structural supports, fillets and noggins as outlined in section A.2.
Sealant	4. Apply Fyreflex Sealant to all board joints.
Board Joints	5. Ensure adjacent sides of encasement have a minimum of 300mm stagger between board joints, as seen above in Figure 5. 6. Minimum 100mm wide cover strips are to be fixed centrally to all board joints. Strips can be mounted inside or outside the column encasement, however for internal mounting ensure there is adequate documentation of the procedure.
Fixings	7. Secure encasement using approved fixings as outlined in section A.4 8. Apply cover strip fixings on each side of board joint.

Section A – Columns

A.4 Fixings

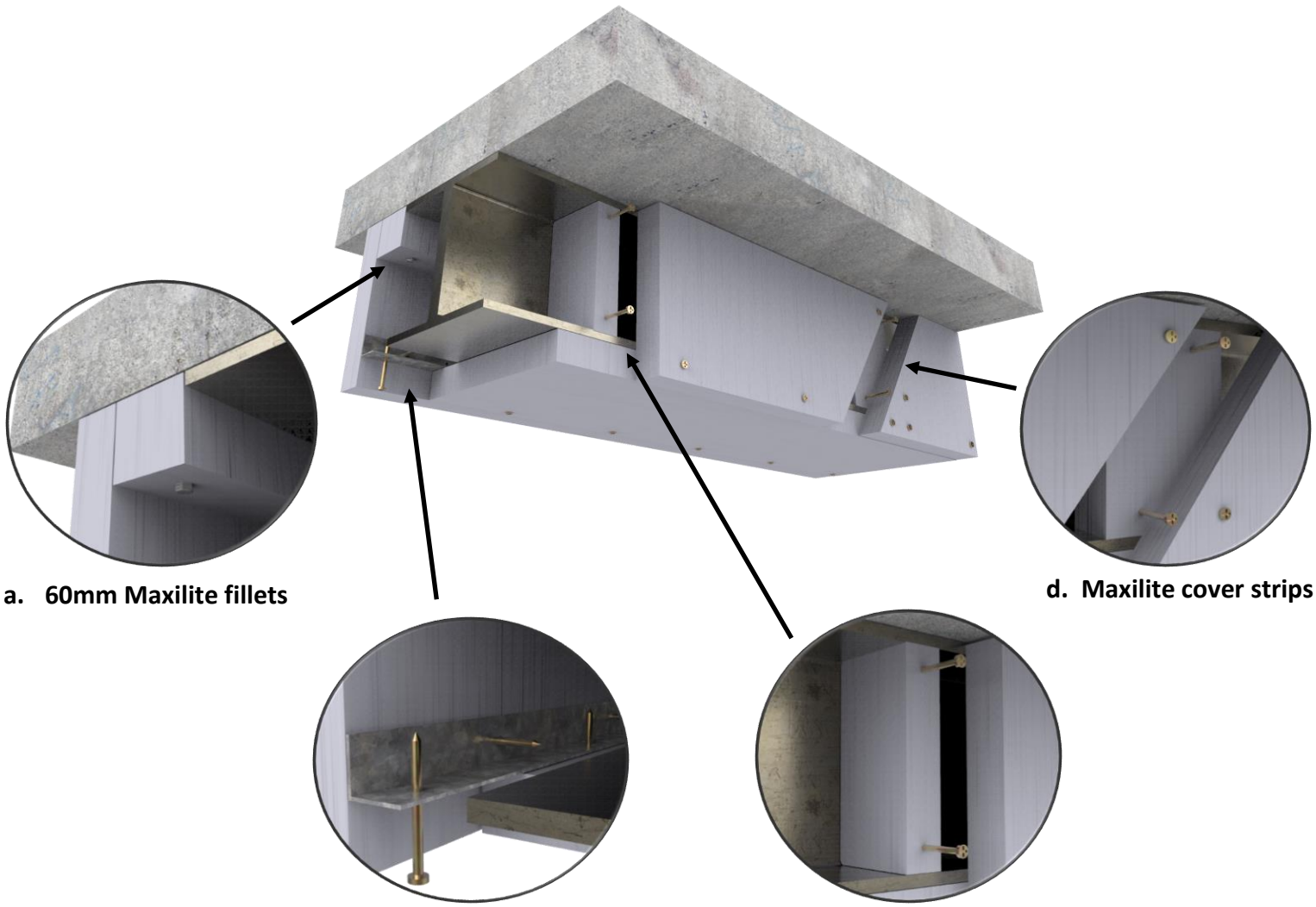
Table 1: Approved Fixings			
Fixing Through:	**Fixing Into:**		
	Maxilite Board	*Light Gauge Angle*	*Concrete / Masonry*
30mm Maxilite	Min. 60mm chipboard screws or equivalent @ 300mm centres Min. 60mm nails or equivalent @ 150mm centres Min. 60mm staples or equivalent @ 150mm centres	Min. 45mm gyprock screws or equivalent @ 300mm centres	Min 70mm dynabolts or equivalent @ 300mm centres
40mm Maxilite	Min. 70mm chipboard screws or equivalent @ 300mm centres Min. 70mm nails or equivalent @ 150mm centres Min. 70mm staples or equivalent @ 150mm centres	Min. 60mm gyprock screws or equivalent @ 300mm centres	Min 80mm dynabolts or equivalent @ 300mm centres
60mm Maxilite	Min. 90mm chipboard screws or equivalent @ 300mm centres Min. 90mm nails or equivalent @150mm centres Min. 90mm staples or equivalent @ 150mm centres	Min. 80mm gyprock screws or equivalent @ 300mm centres	Min. 100mm dynabolts or equivalent @ 300mm centres
	Gyprock	*Concrete / Masonry*	
Maxilite Fillets	Gyprock screws to provide min. 20mm penetration of stud or equivalent @ 600mm centres	Min. 100mm dynabolts or equivalent @ 600mm centres	
Light Gauge Angle	Gyprock screws to provide min. 20mm penetration of stud or equivalent @ 600mm centres	Min. 100mm dynabolts or equivalent @ 600mm centres	

Section B – Beams

B.1 Encasement Construction

The following section compiles the approved design details for Maxilite steel beam encasements. For steel beam encasement solutions not found within this section, or technical questions relating to these details please contact Trafalgar.

Please refer to section B.2 “Encasement Layouts” to see where each of the following details are to be utilised.



a. 60mm Maxilite fillets

b. Light gauge metal angle

c. 60mm thick Maxilite noggins

d. Maxilite cover strips

Section B – Beams

B.1 Encasement Construction

Key:

a. 60mm Maxilite fillets
   - 60mm wide Maxilite fillets located within the encasement construction, as per the encasement layouts in section B.2

b. Light gauge metal angle
   - 50x50x0.9mm Steel angle located within the encasement construction, as per the encasement layouts in section B.2

c. 60mm thick Maxilite noggins
   - Noggins are cut to fit tightly within the web cavity and friction fit into position. They are to be fixed 100mm from each end of the board and at maximum 650mm centres along the length of the board.

d. Maxilite cover strips
   - 100mm wide cover strips are to be applied to all joins between adjacent Maxilite boards, located either outside or within the beam encasement.
   - Alternatively, a backing strip noggin can be utilised, eliminating the need for both noggins and cover strips within the web cavity. Simply construct Noggins from 100mm wide by 60mm thick Maxilite and friction fit between the flanges of the steel column. Position noggins to sit centrally behind adjacent board joints and at maximum 760mm centres along the length of the board.

Section B – Beams

B.2 Encasement Layouts

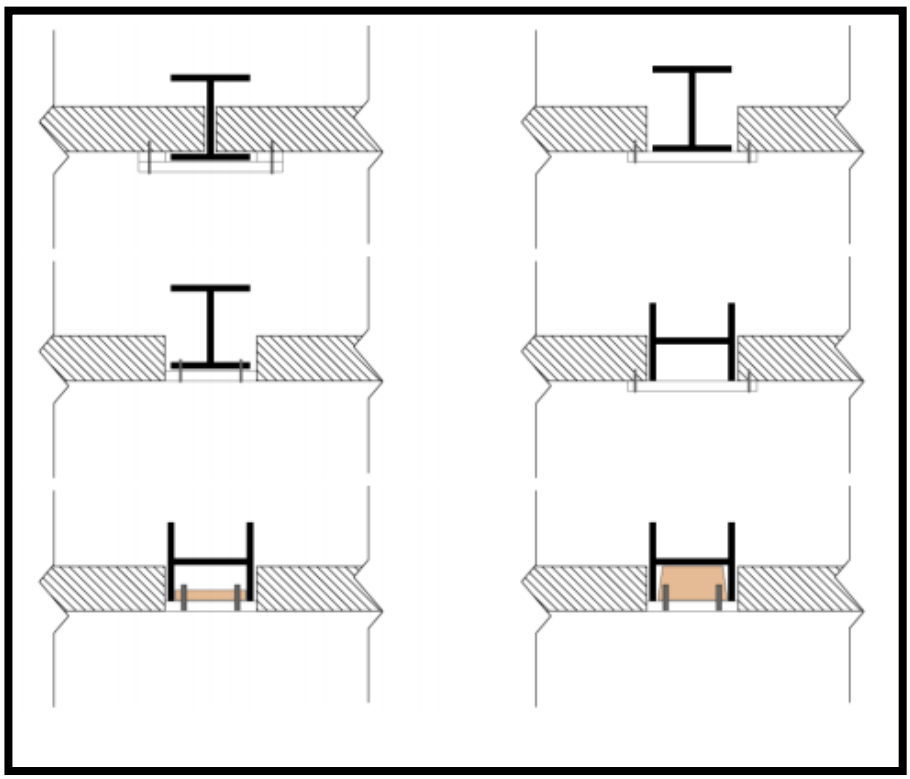


Figure 6 - One Sided Beam Encasements

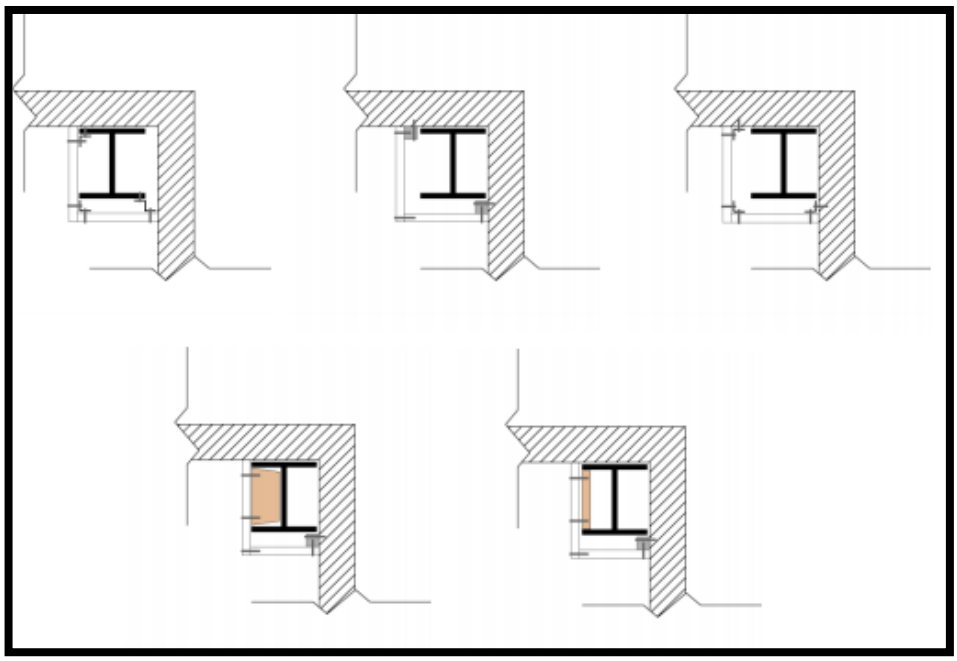


Figure 7 - Two Sided Beam Encasements

Section B – Beams

B.2 Encasement Layouts

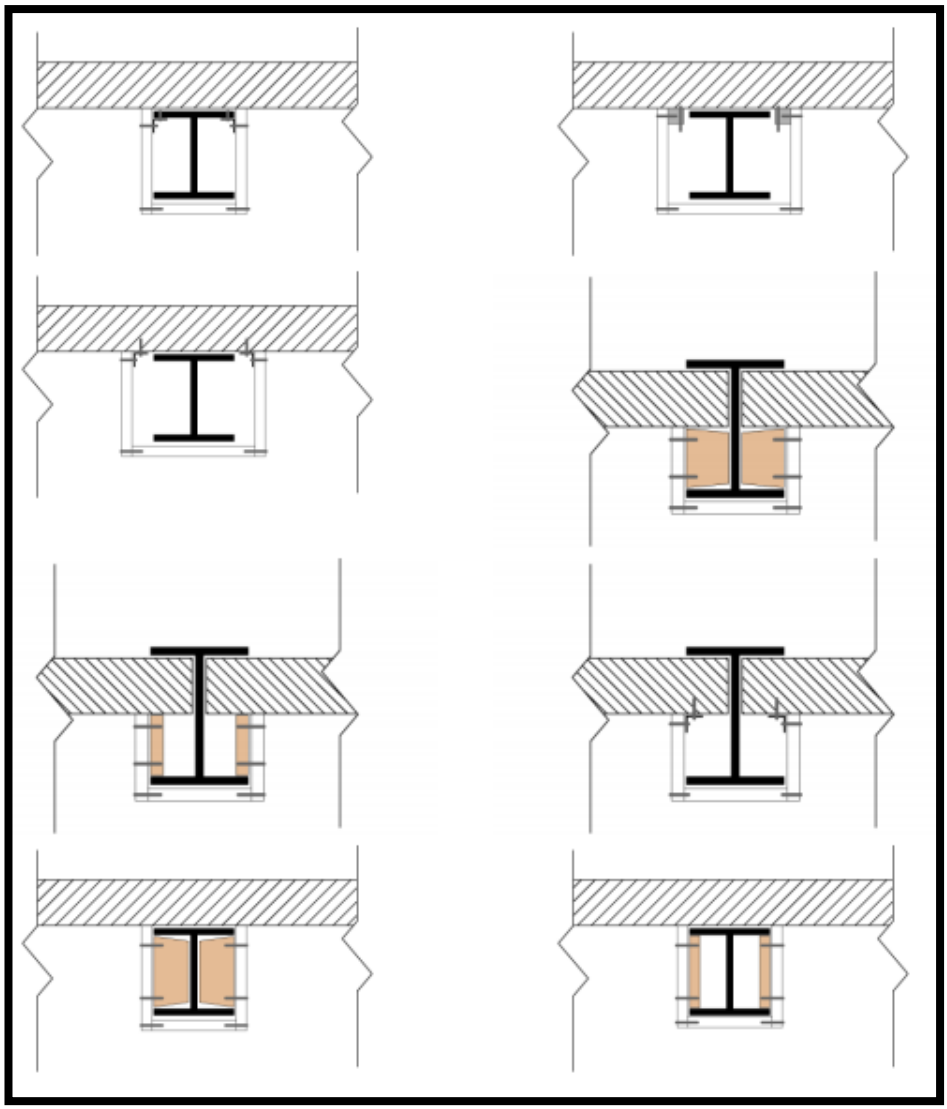


Figure 8 - Three Sided Beam Encasements

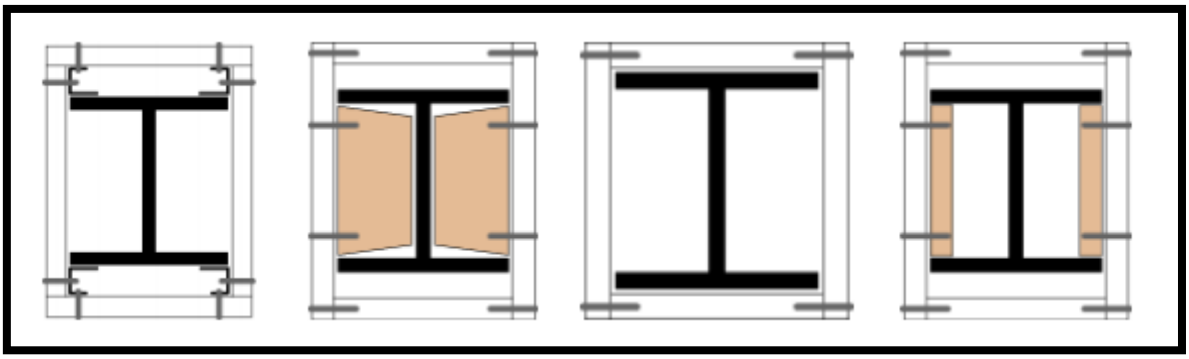


Figure 9 - Four Sided Beam Encasements

Section B – Beams

B.3 Installation Procedure

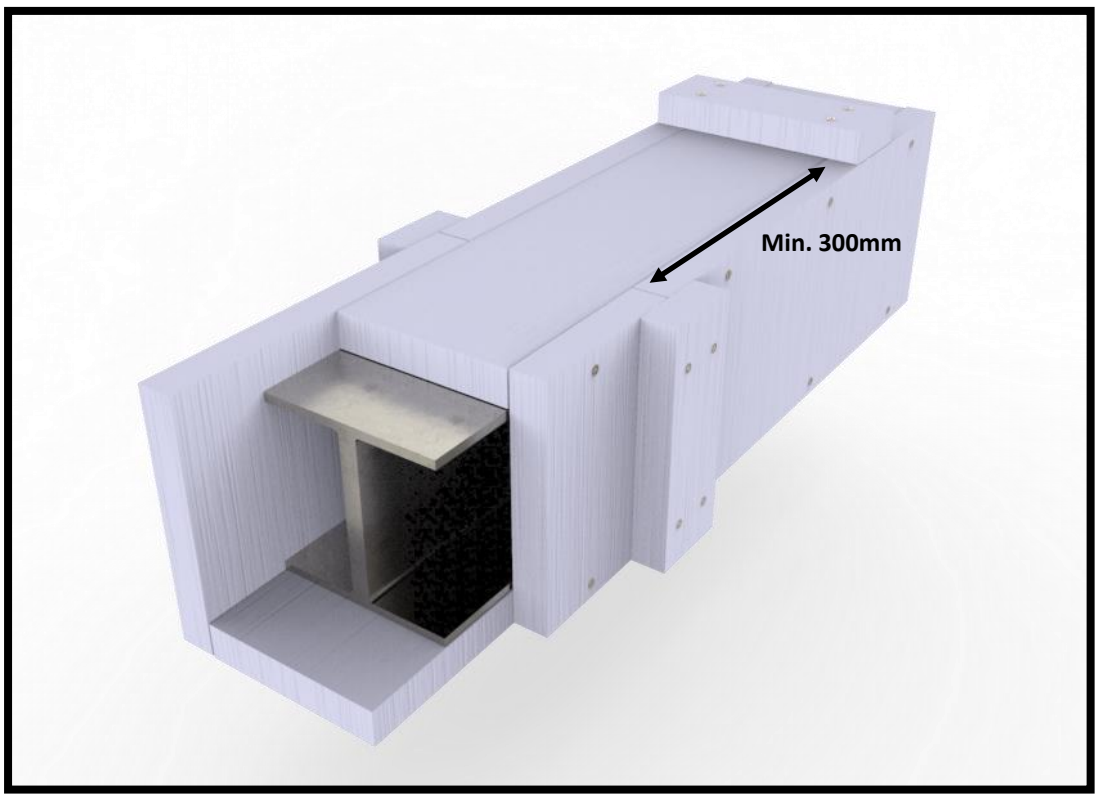


Figure 10 – Beam Encasement Showing Cover strips and Board Joint Stagger

Maxilite Board	1. Calculate the appropriate Maxilite board thickness needed to achieve the desired FRL. This can be found using the 'Required Maxilite Thickness' tables at the back of this technical manual.
Encasement Layout	2. Beams are to be encased on 1,2,3 or all 4 sides depending on the position of surrounding wall constructions. 3. Construct beam encasement using all necessary structural supports, fillets and noggins as outlined in section B.2.
Sealant	4. Apply Fyreflex Sealant to all board joints.
Board Joints	5. Ensure adjacent sides of encasement have a minimum of 300mm stagger between board joints, as seen above in Figure 10. 6. Minimum 100mm wide Maxilite cover strips are to be fixed centrally to all board joints. Strips can be mounted inside or outside the beam encasement, however for internal mounting ensure there is adequate documentation of the procedure.
Fixings	7. Secure encasement using approved fixings as outlined in section B.4 8. Apply cover strip fixings on each side of board joint.

Section B – Beams

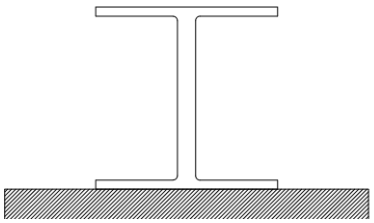
B.4 Fixings

Table 2: Approved Fixings			
Fixing Through:	**Fixing Into:**		
	Maxilite Board	*Light Gauge Angle*	*Concrete / Masonry*
30mm Maxilite	Min. 60mm chipboard screws or equivalent @ 300mm centres Min. 60mm nails or equivalent @ 150mm centres	Min. 50mm gyprock screws or equivalent @ 300mm centres	Min 70mm dynabolts or equivalent @ 300mm centres
40mm Maxilite	Min. 75mm chipboard screws or equivalent @ 300mm centres Min. 75mm nails or equivalent @ 150mm centres	Min. 60mm gyprock screws or equivalent @ 300mm centres	Min 80mm dynabolts or equivalent @ 300mm centres
60mm Maxilite	Min. 100mm chipboard screws or equivalent @ 300mm centres Min. 100mm nails or equivalent @150mm centres	Min. 75mm gyprock screws or equivalent @ 300mm centres	Min. 100mm dynabolts or equivalent @ 300mm centres
	Gyprock	*Concrete / Masonry*	
Maxilite Fillets	Min. 120mm Gyprock screws or equivalent	Min. 100mm Dynabolts or equivalent	
Light Gauge Angle	Min. 50mm Gyprock screws or equivalent	Min. 50mm dynabolts or equivalent	

Required Maxilite Thickness

The Maxilite thickness required to achieve a desired Fire Resistance Level can be found by using the following "Board Thickness Calculator" tables. Simply look up your beam/column section factor (Hp/A) then read across to the required Maxilite thickness. For any specifications not found in these tables, please contact Trafalgar. **Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.**

Please note, Maxilite board is available in thicknesses of 30, 40 or 60mm so you will need to round up to the closest available thickness. Ie. for a required thickness of 20mm, please select



Required Maxilite Thickness

Universal Columns

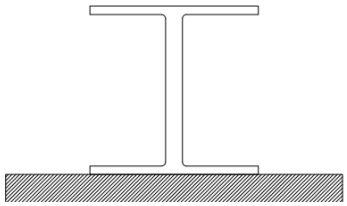
Required Maxilite Thickness in Millimetres															
Steel Size		3 Sided Encasement							4 Sided Encasement						
		Hp/A	*Fire Resistance Level*						Hp/A	*Fire Resistance Level*					
		1/m	30	60	90	120	180	240	1/m	30	60	90	120	180	240
310UC	283	29	20	20	20	20	20	25	38	20	20	20	20	20	25
	240	33	20	20	20	20	20	25	44	20	20	20	20	20	25
	198	39	20	20	20	20	20	25	52	20	20	20	20	20	25
	158	48	20	20	20	20	20	25	63	20	20	20	20	20	30
	137	54	20	20	20	20	20	25	72	20	20	20	20	25	40
	118	62	20	20	20	20	20	30	83	20	20	20	20	25	40
	97	74	20	20	20	20	25	40	99	20	20	20	20	30	40
250UC	90	68	20	20	20	20	20	30	91	20	20	20	20	30	40
	73	82	20	20	20	20	25	40	109	20	20	20	20	30	40
200UC	60	82	20	20	20	20	25	40	109	20	20	20	20	30	40
	52	92	20	20	20	20	30	40	123	20	20	20	25	35	50
	46	103	20	20	20	20	30	40	138	20	20	20	25	35	50
150UC	37	101	20	20	20	20	30	40	133	20	20	20	25	35	50
	30	121	20	20	20	25	35	50	161	20	20	20	30	40	50
	23	153	20	20	20	30	40	50	204	20	20	25	30	45	-
100UC	15	155	20	20	20	30	40	50	208	20	20	25	30	45	-

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Universal Beams

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



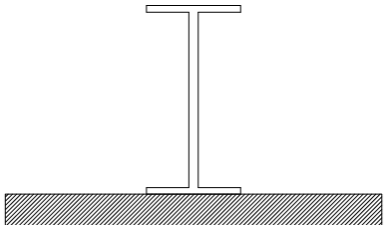
Required Maxilite Thickness in Millimetres															
Steel Size		3 Sided Encasement							4 Sided Encasement						
		Hp/A	*Fire Resistance Level*						Hp/A	*Fire Resistance Level*					
		1/m	30	60	90	120	180	240	1/m	30	60	90	120	180	240
760UB	244	59	20	20	20	20	20	25	68	20	20	20	20	20	30
	220	65	20	20	20	20	20	30	75	20	20	20	20	25	40
	197	72	20	20	20	20	25	40	83	20	20	20	20	25	40
	173	81	20	20	20	20	25	40	93	20	20	20	20	30	40
	148	94	20	20	20	20	30	40	108	20	20	20	20	30	40
690UB	140	91	20	20	20	20	30	40	105	20	20	20	20	30	40
	125	101	20	20	20	20	30	40	117	20	20	20	25	35	40
610UB	125	91	20	20	20	20	30	40	106	20	20	20	20	30	40
	113	100	20	20	20	20	30	40	116	20	20	20	25	35	40
	101	111	20	20	20	20	30	40	128	20	20	20	25	35	50
530UB	92	108	20	20	20	20	30	40	126	20	20	20	25	35	50
	82	121	20	20	20	25	35	50	141	20	20	20	25	40	50
460UB	82	106	20	20	20	20	30	40	125	20	20	20	25	35	50
	74	116	20	20	20	25	35	40	136	20	20	20	25	35	50
	67	128	20	20	20	25	35	50	151	20	20	20	25	40	50
410UB	60	130	20	20	20	25	35	50	154	20	20	20	30	40	50
	54	143	20	20	20	25	40	50	169	20	20	25	30	40	50
360UB	57	123	20	20	20	25	35	50	147	20	20	20	25	40	50
	51	137	20	20	20	25	35	50	163	20	20	20	30	40	50
	45	154	20	20	20	30	40	50	184	20	20	25	30	45	-
310UB	46	132	20	20	20	25	35	50	161	20	20	20	30	40	50
	40	150	20	20	20	25	40	50	182	20	20	25	30	45	-
250UB	37	139	20	20	20	25	40	50	170	20	20	25	30	40	50
	31	162	20	20	20	30	40	50	199	20	20	25	30	45	-
200UB	30	144	20	20	20	25	40	50	179	20	20	25	30	45	50
	25	167	20	20	25	30	40	50	208	20	20	25	35	45	-
180UB	22	159	20	20	20	30	40	50	191	20	20	25	30	45	-
	18	191	20	20	25	30	45	-	230	20	20	25	35	50	-
150UB	18	168	20	20	25	30	40	50	200	20	20	25	30	45	-
	14	210	20	20	25	35	45	-	252	20	20	30	35	50	-

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Welded Beams

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



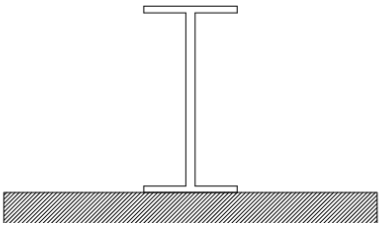
Required Maxilite Thickness in Millimetres															
Steel Size		3 Sided Encasement							4 Sided Encasement						
		Hp/A	*Fire Resistance Level*						Hp/A	*Fire Resistance Level*					
		1/m	30	60	90	120	180	240	1/m	30	60	90	120	180	240
1200WB	455	50	20	20	20	20	20	25	59	20	20	20	20	20	25
	423	53	20	20	20	20	20	25	63	20	20	20	20	20	30
	392	57	20	20	20	20	20	25	67	20	20	20	20	20	30
	342	64	20	20	20	20	20	30	73	20	20	20	20	25	40
	317	68	20	20	20	20	20	30	78	20	20	20	20	25	40
	278	76	20	20	20	20	25	40	86	20	20	20	20	25	40
	249	82	20	20	20	20	25	40	91	20	20	20	20	30	40
1000WB	322	60	20	20	20	20	20	25	69	20	20	20	20	20	30
	296	64	20	20	20	20	20	30	75	20	20	20	20	25	40
	258	72	20	20	20	20	25	40	83	20	20	20	20	25	40
	215	84	20	20	20	20	25	40	95	20	20	20	20	30	40
900WB	282	63	20	20	20	20	20	30	74	20	20	20	20	25	40
	257	68	20	20	20	20	20	30	80	20	20	20	20	25	40
	218	78	20	20	20	20	25	40	90	20	20	20	20	30	40
	175	94	20	20	20	20	30	40	107	20	20	20	20	30	40
800WB	192	79	20	20	20	20	25	40	91	20	20	20	20	30	40
	168	89	20	20	20	20	25	40	101	20	20	20	20	30	40
	146	101	20	20	20	20	30	40	115	20	20	20	25	35	40
	122	117	20	20	20	25	35	40	133	20	20	20	25	35	50
700WB	173	77	20	20	20	20	25	40	90	20	20	20	20	30	40
	150	87	20	20	20	20	25	40	100	20	20	20	20	30	40
	130	99	20	20	20	20	30	40	114	20	20	20	20	35	40
	115	112	20	20	20	20	35	40	129	20	20	20	25	35	50

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Welded Columns

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar



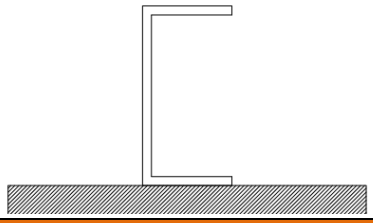
Required Maxilite Thickness in Millimetres																	
Steel Size		3 Sided Encasement							4 Sided Encasement								
		Hp/A 1/m	*Fire Resistance Level*						Hp/A 1/m	*Fire Resistance Level*							
			30	60	90	120	180	240		30	60	90	120	180	240		
500WC	440	26	20	20	20	20	20	25	35	20	20	20	20	20	25		
	414	28	20	20	20	20	20	25	37	20	20	20	20	20	25		
	383	30	20	20	20	20	20	25	40	20	20	20	20	20	25		
	340	35	20	20	20	20	20	25	47	20	20	20	20	20	25		
	290	40	20	20	20	20	20	25	54	20	20	20	20	20	25		
	267	44	20	20	20	20	20	25	59	20	20	20	20	20	25		
	228	51	20	20	20	20	20	25	68	20	20	20	20	20	30		
400WC	361	27	20	20	20	20	20	25	36	20	20	20	20	20	25		
	328	30	20	20	20	20	20	25	40	20	20	20	20	20	25		
	303	32	20	20	20	20	20	25	43	20	20	20	20	20	25		
	270	36	20	20	20	20	20	25	47	20	20	20	20	20	25		
	212	44	20	20	20	20	20	25	59	20	20	20	20	20	25		
	181	51	20	20	20	20	20	25	69	20	20	20	20	20	30		
	144	63	20	20	20	20	20	30	85	20	20	20	20	25	40		
350WC	280	30	20	20	20	20	20	25	39	20	20	20	20	20	25		
	258	32	20	20	20	20	20	25	42	20	20	20	20	20	25		
	230	35	20	20	20	20	20	25	47	20	20	20	20	20	25		
	197	40	20	20	20	20	20	25	54	20	20	20	20	20	25		

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Parallel Flange Beams

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



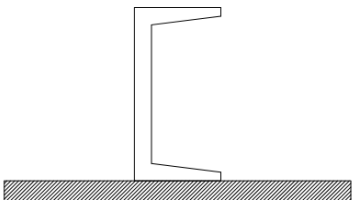
Required Maxilite Thickness in Millimetres													
Steel Size	3 Sided Encasement							4 Sided Encasement					
	Hp/A 1/m	*Fire Resistance*						Hp/A 1/m	*Fire Resistance*				
		30	60	90	120	180	240		30	60	90	120	180	240
380PFC	122	20	20	20	25	35	50	136	20	20	20	25	35	50
300PFC	135	20	20	20	25	35	50	153	20	20	20	30	40	50
250PFC	130	20	20	20	25	35	50	150	20	20	20	25	40	50
230PFC	167	20	20	25	30	40	50	191	20	20	25	30	45	-
200PFC	163	20	20	20	30	40	50	188	20	20	25	30	45	-
180PFC	164	20	20	25	30	40	50	192	20	20	25	30	45	-
150PFC	166	20	20	25	30	40	50	200	20	20	25	30	45	-
125PFC	207	20	20	25	30	45	-	250	20	20	30	35	50	-
100PFC	236	20	20	25	35	50	-	283	20	20	30	35	50	-
75PFC	252	20	20	30	35	50	-	305	25	25	30	40	50	-

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Taper Flange Channels

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



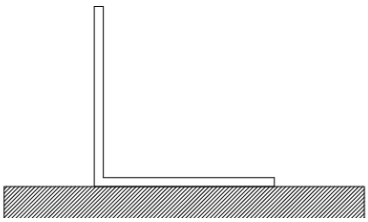
Required Maxilite Thickness in Millimetres													
Steel Size	3 Sided Encasement							4 Sided Encasement					
	Hp/A 1/m	*Fire Resistance Level*						Hp/A 1/m	*Fire Resistance Level*				
		30	60	90	120	180	240		30	60	90	120	180	240
125TFC	185	20	20	25	30	45	_	225	20	20	25	35	45	_
100TFC	210	20	20	25	35	45	_	255	20	20	30	35	50	_

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Equal Angles

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



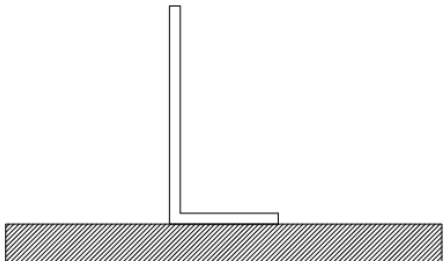
Required Maxilite Thickness in Millimetres																	
Steel Size		3 Sided Encasement							4 Sided Encasement								
		Hp/A 1/m	*Fire Resistance Level*						Hp/A 1/m	*Fire Resistance Level*							
			30	60	90	120	180	240		30	60	90	120	180	240		
200x 200	26EA	61	20	20	20	20	20	30	82	20	20	20	20	25	40		
	20EA	78	20	20	20	20	25	40	104	20	20	20	20	30	40		
	18EA	87	20	20	20	20	25	40	115	20	20	20	25	35	40		
	16EA	97	20	20	20	20	30	40	129	20	20	20	25	35	50		
	13EA	118	20	20	20	25	35	40	157	20	20	20	30	40	50		
150x 150	19EA	84	20	20	20	20	25	40	112	20	20	20	20	35	40		
	16EA	100	20	20	20	20	30	40	133	20	20	20	25	35	50		
	12EA	129	20	20	20	25	35	50	172	20	20	25	30	40	50		
	10EA	162	20	20	20	30	40	50	215	20	20	25	35	45	-		
125x 125	16EA	101	20	20	20	20	30	40	135	20	20	20	25	35	50		
	12EA	131	20	20	20	25	35	50	174	20	20	25	30	40	50		
	10EA	163	20	20	20	30	40	50	218	20	20	25	35	45	-		
	8EA	197	20	20	25	30	45	-	263	20	20	30	35	50	-		
100x 100	12EA	133	20	20	20	25	35	50	177	20	20	25	30	45	50		
	10EA	165	20	20	25	30	40	50	221	20	20	25	35	45	-		
	8EA	200	20	20	25	30	45	-	266	20	20	30	35	50	-		
	6EA	257	20	20	30	35	50	-	343	-	-	-	-	-	-		
90x 90	10EA	166	20	20	25	30	40	50	222	20	20	25	35	45	-		
	8EA	201	20	20	25	30	45	-	267	20	20	30	35	50	-		
	6EA	258	20	20	30	35	50	-	344	-	-	-	-	-	-		
75x 75	10EA	168	20	20	25	30	40	50	224	20	20	25	35	45	-		
	8EA	202	20	20	25	30	45	-	270	20	20	30	35	50	-		
	6EA	260	20	20	30	35	50	-	346	-	-	-	-	-	-		
	5EA	335	-	-	-	-	-	-	447	-	-	-	-	-	-		
65x 65	10EA	170	20	20	25	30	40	50	226	20	20	25	35	45	-		
	8EA	204	20	20	25	30	45	-	272	20	20	30	35	50	-		
	6EA	261	20	20	30	35	50	-	348	-	-	-	-	-	-		
	5EA	336	-	-	-	-	-	-	448	-	-	-	-	-	-		

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Unequal Angles

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



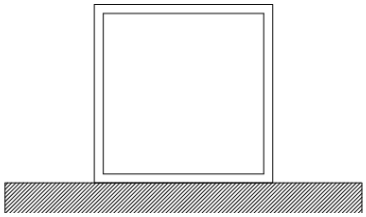
Required Maxilite Thickness in Millimetres																	
Steel Size		3 Sided Encasement							4 Sided Encasement								
		Hp/A 1/m	*Fire Resistance Level*						Hp/A 1/m	*Fire Resistance Level*							
			30	60	90	120	180	240		30	60	90	120	180	240		
150x100	12UA	140	20	20	20	25	40	50	174	20	20	25	30	40	50		
	10UA	174	20	20	25	30	40	50	218	20	20	25	35	45	-		
150x90	16UA	110	20	20	20	20	30	40	135	20	20	20	25	35	50		
	12UA	142	20	20	20	25	40	50	175	20	20	25	30	40	50		
	10UA	177	20	20	25	30	45	50	218	20	20	25	35	45	-		
	8UA	214	20	20	25	35	45	-	263	20	20	30	35	50	-		
125x75	12UA	144	20	20	20	25	40	50	177	20	20	25	30	45	50		
	10UA	179	20	20	25	30	45	50	221	20	20	25	35	45	-		
	8UA	216	20	20	25	35	45	-	266	20	20	30	35	50	-		
	6UA	278	20	20	30	35	50	-	343	-	-	-	-	-	-		
100x75	10UA	175	20	20	25	30	40	50	222	20	20	25	35	45	-		
	8UA	210	20	20	25	35	45	-	268	20	20	30	35	50	-		
	6UA	270	20	20	30	35	50	-	344	-	-	-	-	-	-		
75x50	8UA	217	20	20	25	35	45	-	271	20	20	30	35	50	-		
	6UA	278	20	20	30	35	50	-	347	-	-	-	-	-	-		
	5UA	357	-	-	-	-	-	-	446	-	-	-	-	-	-		
65x50	8UA	214	20	20	25	35	45	-	274	20	20	30	35	50	-		
	6UA	274	20	20	30	35	50	-	350	-	-	-	-	-	-		
	5UA	352	-	-	-	-	-	-	449	-	-	-	-	-	-		

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

Required Maxilite Thickness

Square Hollow Sections

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



Required Maxilite Thickness in Millimetres																
Steel Size SHS		3 Sided Encasement							4 Sided Encasement							
		Hp/A	*Fire Resistance Level*						Hp/A	*Fire Resistance Level*						
		1/m	30	60	90	120	180	240	1/m	30	60	90	120	180	240	
250x250	9	87	20	20	20	20	25	40	116	20	20	20	25	35	40	
	6	129	20	20	20	25	35	50	172	20	20	25	30	40	50	
200x200	9	88	20	20	20	20	25	40	118	20	20	20	25	35	40	
	6	130	20	20	20	25	35	50	173	20	20	25	30	40	50	
	5	155	20	20	20	30	40	50	207	20	20	25	30	45	-	
150x150	9	90	20	20	20	20	30	40	120	20	20	20	25	35	50	
	6	132	20	20	20	25	35	50	176	20	20	25	30	40	50	
	5	157	20	20	20	30	40	50	209	20	20	25	35	45	-	
125x125	9	92	20	20	20	20	30	40	122	20	20	20	25	35	50	
	6	133	20	20	20	25	35	50	177	20	20	25	30	45	50	
	5	158	20	20	20	30	40	50	211	20	20	25	35	45	-	
	4	195	20	20	25	30	45	-	261	20	20	30	35	50	-	
100x100	9	94	20	20	20	20	30	40	125	20	20	20	25	35	50	
	6	135	20	20	20	25	35	50	180	20	20	25	30	45	-	
	5	160	20	20	20	30	40	50	214	20	20	25	35	45	-	
	4	198	20	20	25	30	45	-	263	20	20	30	35	50	-	
	3	260	20	20	30	35	50	-	347	-	-	-	-	-	-	
89x89	6	137	20	20	20	25	35	50	182	20	20	25	30	45	-	
	5	162	20	20	20	30	40	50	215	20	20	25	35	45	-	
	3.5	226	20	20	25	35	45	-	301	25	25	30	40	50	-	
75x75	6	139	20	20	20	25	40	50	185	20	20	25	30	45	-	
	5	164	20	20	25	30	40	50	218	20	20	25	35	45	-	
	4	201	20	20	25	30	45	-	268	20	20	30	35	50	-	
	3.5	228	20	20	25	35	45	-	304	25	25	30	40	50	-	
	3	263	20	20	30	35	50	-	351	-	-	-	-	-	-	
65x65	6	142	20	20	20	25	40	50	189	20	20	25	30	45	-	
	5	166	20	20	25	30	40	50	222	20	20	25	35	45	-	
	4	203	20	20	25	30	45	-	271	20	20	30	35	50	-	
	3	266	20	20	30	35	50	-	354	-	-	-	-	-	-	
50x50	5	172	20	20	25	30	40	50	229	20	20	25	35	50	-	
	4	209	20	20	25	35	45	-	278	20	20	30	35	50	-	
	3	271	20	20	30	35	50	-	361	-	-	-	-	-	-	

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

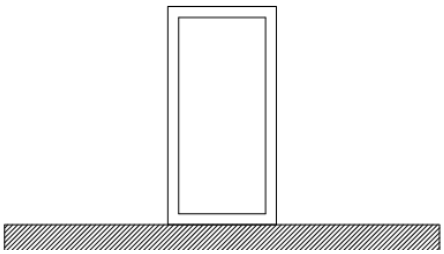
MAXILITE
Steel Protection

Technical Specifications

Required Maxilite Thickness

Rectangular Hollow Sections

Maxilite thickness suitable for 550 deg C critical temperature limit – for other critical temperature requirements contact Trafalgar.



Required Maxilite Thickness in Millimetres															
Steel Size RHS		3 Sided Encasement							4 Sided Encasement						
		Hp/A	*Fire Resistance Level*						Hp/A	*Fire Resistance Level*					
		1/m	30	60	90	120	180	240	1/m	30	60	90	120	180	240
250x150	9	96	20	20	20	20	30	40	118	20	20	20	25	35	40
	6	141	20	20	20	25	40	50	173	20	20	25	30	40	50
	5	168	20	20	25	30	40	50	207	20	20	25	30	45	-
200x100	9	100	20	20	20	20	30	40	120	20	20	20	25	35	50
	6	146	20	20	20	25	40	50	176	20	20	25	30	40	50
	5	174	20	20	25	30	40	50	209	20	20	25	35	45	-
	4	216	20	20	25	35	45	-	259	20	20	30	35	50	-
150x100	6	142	20	20	20	25	40	50	177	20	20	25	30	45	50
	5	169	20	20	25	30	40	50	211	20	20	25	35	45	-
	4	208	20	20	25	35	45	-	261	20	20	30	35	50	-
150x50	5	187	20	20	25	30	45	-	214	20	20	25	35	45	-
	4	230	20	20	25	35	50	-	263	20	20	30	35	50	-
	3	303	25	25	30	40	50	-	347	-	-	-	-	-	-
125x75	5	174	20	20	25	30	40	50	214	20	20	25	35	45	-
	4	214	20	20	25	35	45	-	263	20	20	30	35	50	-
	3	282	20	20	30	35	50	-	347	-	-	-	-	-	-
100x50	6	155	20	20	20	30	40	50	185	20	20	25	30	45	-
	5	182	20	20	25	30	45	-	218	20	20	25	35	45	-
	4	223	20	20	25	35	45	-	268	20	20	30	35	50	-
	3.5	253	20	20	30	35	50	-	304	25	25	30	40	50	-
	3	293	25	25	30	35	50	-	351	-	-	-	-	-	-
75x50	6	152	20	20	20	25	40	50	190	20	20	25	30	45	-
	5	178	20	20	25	30	45	50	223	20	20	25	35	45	-
	4	218	20	20	25	35	45	-	272	20	20	30	35	50	-
	3	284	20	20	30	35	50	-	355	-	-	-	-	-	-

NOTE: These section factors (Hp/A) are only a guide for the listed steel dimensions and will change depending on encasement orientation. Please ensure section factor has been correctly calculated before selecting the required Maxilite thickness.

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