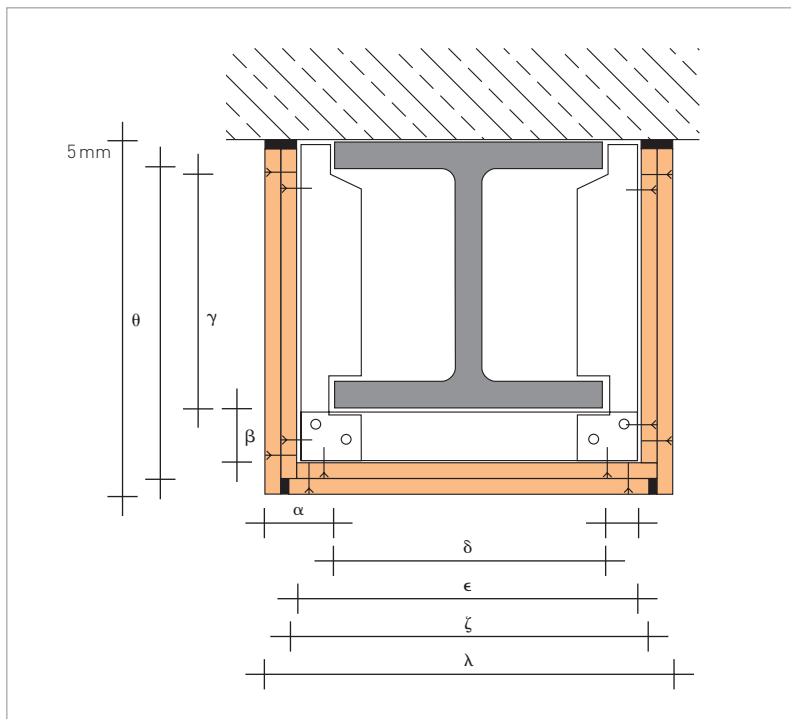


## FERMACELL Beam Encasement

# In accordance with DIN 4102



The following tables are valid for steel sections with a section factor of  $H_p/A \leq 300 \text{ m}^{-1}$  according to the formula:

$$H_p/A = \frac{2h - b}{A}$$

Where  $H_p$  = Heated perimeter  
and  $A$  = Cross Sectional Area of metal Element

Lining thickness			
F 30	F 60	F 90	F 120
10 mm	10 mm	15 mm	18 mm
-	10 mm	12.5 mm	18 mm

### How to calculate board dimensions.

Calculation of board dimensions must take into account the board thickness needed to achieve the required fire rating. Refer to the table on "Lining Thicknesses" above.

$$\text{Width } \epsilon = \delta + (\alpha \times 2)$$

$$\text{Width } \zeta = \epsilon + [2 \times \text{1st layer thickness}] - [2 \times 5 \text{ mm joint filler}]$$

$$\text{Width } \eta = \gamma + \beta - 5 \text{ mm joint filler}$$

$$+ \text{1st layer thickness of board}$$

$$\text{Width } \theta = \eta + \text{2nd layer thickness of board}$$

### Note:

$\alpha$  and  $\beta$  are the width, from the edge of the beam, of the proprietary steel clip systems. Examples of the Protektor range are available from Cornercare (01562 515200). Staples can be used to edge fix the boards. Timber grounds may also be placed in the web to provide the necessary fixing points. Grounds or proprietary clip systems must be installed at 400 mm centres, and screws and staples should be spaced at 150 mm centres.

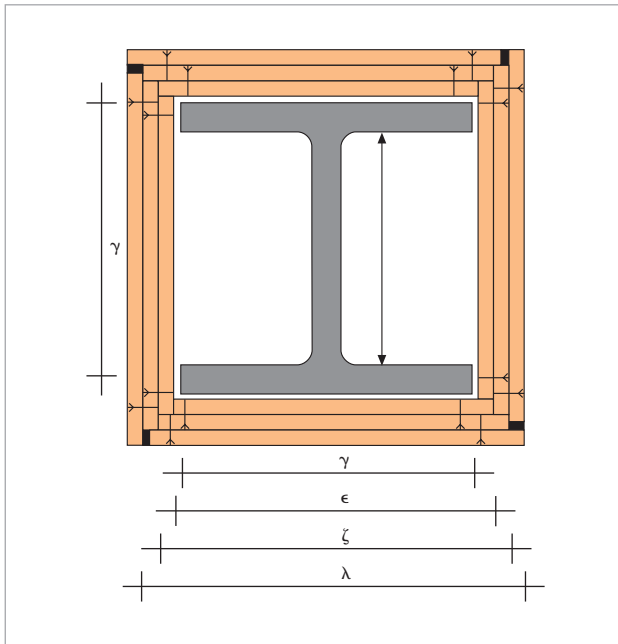
Horizontal joints should be staggered by 400 mm.

F30 constructions with one layer should be sealed at the corners with a fire proof mastic. For multiple layer constructions, the last (outer) layer should be sealed with joint filler as shown in the drawing above.

All fixing and jointing must be made in accordance with the FERMACELL Handy Guide.

## FERMACELL Column Encasement

# In accordance with DIN 4102 – part 4



The following tables are valid for steel sections with a section factor of  $H_p/A \leq 300 \text{ m}^{-1}$

according to the formula:

$$H_p/A = \frac{2b - 2h - b^2}{A}$$

Where  $H_p$  = Heated perimeter

and  $A$  = Cross Sectional Area of metal Element

Lining thickness				
F 30	F 60	F 90	F 120	F 180
10 mm	10 mm	15 mm	15 mm	15 mm
-	10 mm	15 mm	15 mm	15 mm
-	-	12.5 mm	15 mm	15 mm
-	-	-	15 mm	15 mm
-	-	-	-	15 mm

### How to calculate board dimensions.

Calculation of board dimensions must take into account the board thickness needed to achieve the required fire rating. Refer to the table on "Lining Thicknesses" above.

Width  $\epsilon = \gamma + (1 \times 1^{\text{st}} \text{ layer thickness})$

Width  $\zeta = \epsilon + (1 \times 1^{\text{st}} \text{ layer thickness}) + (1 \times 2^{\text{nd}} \text{ layer thickness})$

Width  $\lambda = \zeta + (1 \times 2^{\text{nd}} \text{ layer thickness}) + (1 \times 3^{\text{rd}} \text{ layer thickness}) + 5 \text{ mm for joint filler}$

### Note:

$\alpha$  and  $\beta$  are the width, from the edge of the beam, of the proprietary steel clip systems. Examples of the Protektor range are available from Cornercare (01562 515200). Staples can be used to edge fix the boards. Timber grounds may also be placed in the web to provide the necessary fixing points. Grounds or proprietary clip systems must be installed at 400 mm centres, and screws and staples should be spaced at 150 mm centres.

Horizontal joints should be staggered by 400 mm.

F 30 constructions with one layer should be sealed at the corners with a fire proof mastic. For multiple layer constructions, the last (outer) layer should be sealed with joint filler as shown in the drawing above.

All fixing and jointing must be made in accordance with the FERMACELL Handy Guide.

Other construction details and technical information sheets are available from XELLA.

This publication contains detailed instructions for the correct installation of FERMACELL beam and column encasements.

We reserve the right to make changes in the interest of technical improvement.

All information correct as at 08.03

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