

AUSTRAL BRICKS™

01B. NSW FIRE RESISTANCE CHARTS

The fire resistance period (FRP) for structural adequacy is specific to the wall type and its boundary support conditions.

AS 3700 permits charts derived from test results to be used for any fired clay bricks that are of the same type as those in the tested walls. These charts allow designers to assess the fire resistance level (FRL) for a specific wall type and enables the FRP for structural adequacy to be directly read from the charts. More details on fire resistance levels are available in Brick Manual 1.

Note: In the terms of AS3700 the same type means clay and shales of the same mineralogy and geological type, blended in the same proportions and manufactured by similar processes.

The following charts are derived in accordance with AS 3700 from tests on loadbearing walls. They can be applied to all walls, whether loadbearing or non-loadbearing. The following test reports have been used as the basis for these charts:

- CSIRO test report FSV0302 of May 1994 for fired clay Maxi bricks.
- CSIRO report FSV0893 of April 2002 for fired clay GP119 bricks.

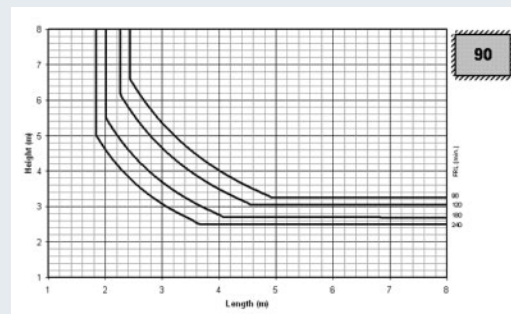
The thickness of the units and the edge support conditions are indicated with icons adjacent to each chart. Hatching along a wall edge indicates a support to that edge. The lines for FRL 90 minutes represent the limit of the range of available test results. They should therefore be used for any fire resistance level lower than 90 minutes.

For walls supported only at the top and bottom, the limiting heights are shown in the table below. For walls with support on one or both vertical edges, the limiting heights approach these values as the length increases. This behaviour can be seen in the charts for cases where the top of the wall is supported.

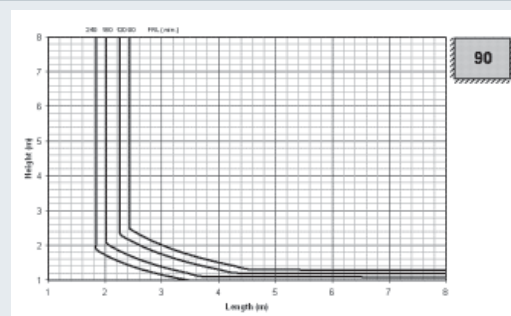
Thickness (mm)	Fire Resistance Period (min.)	Limiting Height (mm)
90	90	3240
	120	3019
	180	2689
	240	2455
110	90	3960
	120	3690
	180	3286
	240	3000
150	90	5400
	120	5032
	180	4481
	240	4091

Note: Designers should also check for robustness and resistance to applied loads in all cases.

FRLs for 90mm Walls with Four Edges Supported



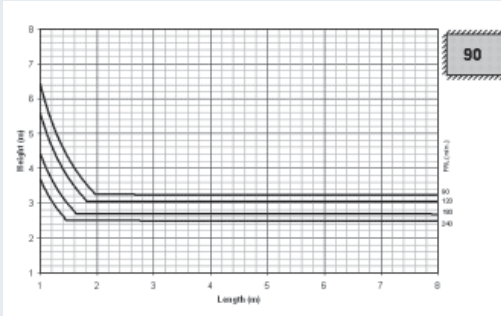
FRLs for 90mm Walls with Three Edges Supported and the Top Free



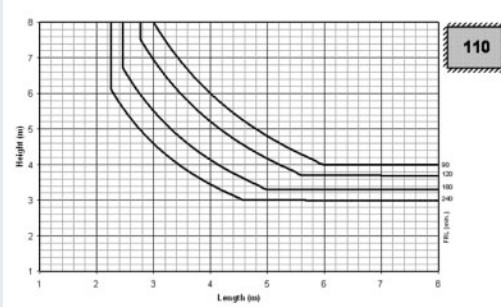
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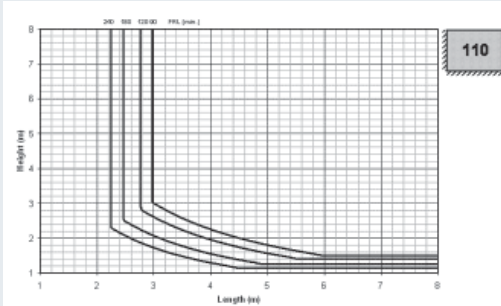
FRLs for 90mm Walls with Three Edges Supported and the Top Free



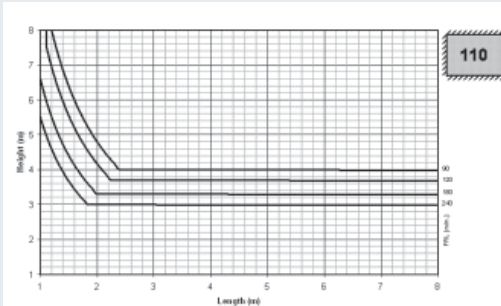
FRLs for 110mm Walls with Four Edges Supported



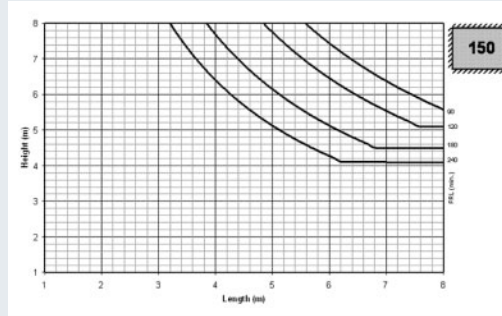
FRLs for 110mm Walls with Three Edges Supported and the Top Free



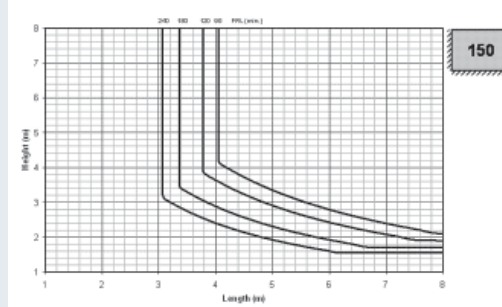
FRLs for 110mm Walls with Three Edges Supported and One Side Free



FRLs for 150mm Walls with Four Edges Supported



FRLs for 150mm Walls with Three Edges Supported and the Top Free



FRLs for 150mm Walls with Three Edges Supported and One Side Free

