

Fire Resistance Walls and Partitions

Fire Resistance Achieved by a Selection of Various Types of Walls and Partitions

Partitions should have a fire resistance period not less than thirty minutes. Junctions between the frame of the structure and the surrounding walls, ceiling and floor should form an effective seal.

New partition walls should comply with examples given in the Building Regulations or with any other materials which have been successfully tested at the Fire Research Station.

Fire resisting glazing may be used in partitions. This should be wire mesh glass (not more than 25 mm mesh) not less than 6 mm thick in panes not exceeding 1.2 m² in area secured with hardwood or metal beading independently of any lead, cement or putty in substantial fixed framing and in most cases should be restricted to the area higher than 1.1 m above floor level.

Existing partitions of a lower standard than the above mentioned will require improvement. Covering of framed partitions with asbestos type board or similar material, other than asbestos type board or plasterboard and covering the whole face with a good quality plywood, will normally be satisfactory. The infilling and covering materials should be secured with glue and screwed. Any door in a thirty minute fire resisting partition should also be thirty minute fire resisting.

Tongue and groove boarding with no substantial frame is not considered adequate substrate to be made fire resisting.

Below are examples of partitions and their fire resisting performance.

Construction and Materials	Minimum thickness in <u>mm</u> (excluding plaster) to attain indicated fire resistance					
	LOAD BEARING			NON-LOAD BEARING		
	120 mins	60 mins	30 mins	120 mins	60 mins	30 mins
<u>Bricks of clay, concrete or sand lime</u>						
Unplastered	100	100	100	100	75	75
Plastered on both sides 12.5mm thick	100	100	100	100	75	75
Cavity wall with outer leaf of bricks, or blocks of clay, composition, concrete or sand lime <u>not less</u> than 100mm thick, with inner leaf or similar composition	100	100	100	75	75	75
<u>Concrete Blocks – Class 1 Aggregate</u>						
Unplastered	100	100	100	75	75	50
Plastered on both sides 12.5mm thick	100	100	100	75	75	50
<u>Class 2 Aggregate</u>						
Unplastered	100	100	100	100	75	50
Plastered on both sides 12.4mm thick	100	100	100	100	75	50

<u>Hollow Concrete Blocks – One Cell in Wall</u> <u>Thickness Class 1 Aggregate</u>						
Unplastered	100	100	100	100	100	75
Plastered on both sides 12.5 mm thick	100	100	100	100	75	75
<u>Class 2 Aggregate</u>						
Unplastered	125			150	125	
Plastered on both sides 12.5 mm thick	100			150	125	
<u>Cellular Clay Blocks</u>						
Not less than 50% solid plastered on both sides 12.5 mm thick	75				100	

Framed & Composite Construction
(Non Load bearing Partitions)

Fire Resistance in Minutes

Compressed Straw Slabs

In timber frames finished both sides 5 mm gypsum plaster	60
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Plasterboard 9.5 mm Cellular Core Partition

Unplastered	30
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Finished on each side 12.5 mm gypsum plaster	30
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Plasterboard 12.5 mm Cellular Core Partition

Unplastered	30
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Finished both sides 12.5 mm gypsum plaster	60
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19 mm plasterboard finished both sides 16 mm gypsum plaster	60
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50 mm woodwool slabs plastered both sides 12.5 mm thick	60
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75 mm woodwool slabs plastered both sides 12.5 mm thick	120
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Steel or timber frame with facings each side of:

Metal Lathing with cement/sand or gypsum plaster

-19 mm thick	60
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-12.5 mm thick	30
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Metal Lathing with vermiculite/gypsum plaster

-25 mm thick	120
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-19 mm thick	90
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12.5 mm thick	60
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<u>Plasterboard</u> 9.5 mm – with plaster 5 mm thick	30
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<u>Plasterboard</u> 12.5 mm – unplastered	30
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- with plaster 12.5 mm thick	60
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<u>Plasterboard</u> 19 mm – unplastered	60
(or two layers of 9.5 mm fixed to break point)	60

12.5 mm insulating fibre board – with plaster 12.5 mm	30
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25 mm woodwool slabs – with gypsum plaster 12.5 mm thick	60
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