AUTOCLAVED AERATED CONCRETE

EG3 / 500 Precision Lintels

DESCRIPTION

EG3/500 Precision Lintels are masonry building lintels formulated from cement, lime, silica sand, gypsum and aluminium. Reinforcing is placed into moulds, the slurry is then cast and the mould is transported to green state curing, where a chemical reaction takes place for aeration, giving the Autoclaved Aerated Concrete its light weight characteristics. The lintels are steam cured under pressure in an autoclave, providing enhanced strength characteristics. Once the autoclaving process is complete the AAC lintels are ready for installation.

TYPICAL APPLICATION

EG3/500 Precision Lintels are used for non-load-bearing internal and external walls. These specific lintels can be used for load-bearing walls, provided a competent Engineer undertakes a rational design for its specific purpose. Exterior surface requires cement plaster for protection against the elements. Internal walls can be rendered using either cement plaster or gypsum plaster. **See Aertec Building Guidelines for more information**

STANDARD DIMENSIONS

Length (± 15mm)	1200, 1800, 2000mm
Height (± 5mm)	250mm
Thickness (± 5mm)	100, 150mm

NOTE For 200mm thick walls, 2 x 100mm lintels are to be used. Lintels longer than 2m are produced by special order.

MIN. BEARING LENGTH BOTH SIDES

1200mm	150mm
1800mm	150mm
2000mm	200mm

NOTE Bearing / Support Lengths refer to non load bearing applications only. For load bearing applications contact Aertec SA.

DENSITIES

Dry Density	500 kg/m³
Delivered Density	680 kg/m³
Thickness	100mm, 150mm
Tolerance ± 50kg/m³	

STRUCTURAL PROPERTIES

Compressive Strength	min 3.5 N/mm²
Flexural Strength	min 1.50 kN/m
Shrinkage	0.1 - 0.2 mm/m

THERMAL PROPERTIES

Thermal Conductivity	0.13 W/mK (EN 1745)
Thermal Conductivity	0.15 W/mK (TS 825)

NOTE 0.13 W/mK - EN 1745 & 0.15 W/mK - TS 825

THERMAL RESISTANCE (R-Value)	
100mm thick	0.67 m²K/W
150mm thick	1.00 m²K/W
200mm thick	1.33 m²K/W

NOTE calculations based on walls without render

THERMAL TRANSMITTANCE (U-VALUE)	
100mm thick	1.50 W/m²K
150mm thick	1.00 W/m²K
200mm thick	0.75 W/m²K

NOTE Thermal performance does not take into account the effects of services and and potential thermal bridge areas eg. concrete or brick walls, walls with soffits and movement joints. The Engineer or Architect must ensure that the correct materials are specified and used at these junction areas in order to maintain the thermal ratings.

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FIRE RATING

100mm thick	2 Hours

Flammability class of materials Annex 2 - Flammability classes for Building Materials (excluding flooring materials) according to EN 13501-1	
A1	Class A1 products must not contribute to any phase of the fire, including to the fully developed fire. For this reason, they are automatically expected to meet all the requirements of the lower classes.
A2	Class A2 products must meet the same criteria as class B according to standard EN 13823. Furthermore, under fully developed fire conditions, these products should not make any major contribution to the fire load or to the growth of the fire.
B	Like class C, but meeting stricter requirements.
C	Like class D, but meeting stricter requirements. Also, under thermal attack from a single burning item, they must enable limited sideways spread of the flame.
D	Products which meet the criteria for class E and are capable of withstanding, for a longer period, the attack of a small flame without resulting in any substantial spread of the flame. They must also be capable of withstanding the thermal attack of a single burning item with sufficient delay and limited heat release.
E	Products capable of withstanding, for a short period, the attack of a small flame without resulting in any substantial spread of the flame.
F	Products for which no reaction to fire behaviour has been determined or which do not fall under any of the classses A1, A2, B, C, D and E

Annex 2 - Building Materials - Flammability Class A1 (Flammability Class A1 without the need to test and evaluate the materials)	
Gas (porous) concrete units	Cement and / or fine material of water-based binders such as lime (siliceous agents) and units produced by the combination with the pore producing materials. It covers precast units.

AAC IS CLASSIFIED AS CLASS A1 - NON-COMBUSTIBLE

Fire resistance of non-bearing wall	
100mm thick	EI 120

****NOTE** Fire ratings are based on walls without services. Therefore fire ratings are equal to the remaining thickness of the wall after installation of services. At junction areas such as movement joints, control joints and at soffits, engineers and Architects must ensure the correct materials are used at these junction areas in order to maintain the fire rating.**

SOUND RESISTANCE VALUES

Lintel Size	Render Type	R (dB)
100mm	5mm Gypsum	38
150mm	5mm Gypsum	40
200mm	5mm Gypsum	44
100mm	10mm Plaster	38
150mm	10mm Plaster	41
200mm	10mm Plaster	45

****NOTE** Acoustic ratings do not take into account the effect of services including junction areas such as with concrete or brick walls, soffits and movement joints. Engineers and Architects must ensure the correct materials are used at these junction areas in order to maintain the acoustic ratings.**

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WEIGHT PER 1M LINTEL

100 mm thick	± 17.00 kg
150mm thick	± 25.50 kg
200mm thick	± 34.00 kg

CURING TIME

Autoclaved Aerated Concrete Blocks are steam cured at 190°C for 12 hours between 10-12 Bar pressure. Therefore AAC blocks are ready for use directly after autoclaving.

CONFORMITY

Lintels are manufactured in accordance with EN 845-2 standard. Aertec Thin Bed Mortar is manufactured in accordance with EN 998-2 standard.

Lintels can only be placed with Aertec supplied Thin Bed Mortar which has been specifically designed for the use with Aertec supplied AAC blocks and Lintels. See mortar data sheet for more information.

WALL FIXINGS

Course threaded wood screws minimum 50mm long can be used for fixings up to 25kg

HEAVY DUTY WALL FIXINGS

Rawlplug		
Product	**kN (avg)**	**Anchor Size**
R-FF1-N-08	1.27	8 x 100mm
R-FF1-K-10	2.43	10 x 100mm

****NOTE** FF1 Anchor system: - The innovative design of the expansion zones enables fixture into AAC blocks with embedment of only 70mm.The FF1 has the flexibility that allows you to define the fixing elements thickness (tfix) value, by adjusting the overall length of your anchor. Example FF1 10x100 has a maximum tfix = 30mm and FF1 10x140 has a maximum tfix = 70mm**

Fischer		
Product	**kN (avg)**	**Anchor Size**
Duopower	0.28	6 x 30mm
Duopower	0.80	6 x 50mm
Duopower	0.73	8 x 40mm
Duopower	1.20	8 x 65mm
Duopower	1.50	10 x 80mm

****NOTE** Pull out test report available upon request**