

## AUTOCLAVED AERATED CONCRETE

### EX3 / 600 Precision Blocks

#### DESCRIPTION

**EX3/600 Precision Blocks** are masonry building blocks formulated from cement, lime, silica sand, gypsum and aluminium. The slurry is cast into moulds and is transported into green state curing, where a chemical reaction takes place for aeration, giving the Autoclaved Aerated Concrete its light weight characteristics. The "Cake" is then wire cut and steam cured under pressure in an autoclave, providing enhanced strength characteristics. Once the autoclaving process is complete the AAC blocks are ready for installation.

#### TYPICAL APPLICATION

**EX3/600 Precision Blocks** can be used for load-bearing internal and external walls. The exterior surface requires cement plaster for protection against the elements. Internal walls can be rendered using either cement plaster or gypsum plaster.

#### DIMENSIONS

Length	600mm (± 3mm)
Height	250mm (± 2mm)
Thickness	100, 150, 200mm (± 2mm)
Tolerance: ± 3mm (L) ± 2mm (t) ± 2mm (h)	

#### DENSITIES

Dry Density	600 kg/m <sup>3</sup>
Delivered Density	640 kg/m <sup>3</sup>
Tolerance ± 20kg/m <sup>3</sup>	

#### STRUCTURAL PROPERTIES

Compressive Strength	avg. 5.0 N/mm <sup>2</sup>
Shrinkage	0.1 - 0.2 mm/m

#### THERMAL PROPERTIES

Thermal Conductivity	0.14 W/mK (EN 1745)
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**\*\*NOTE\*\*** calculations based on walls without render. EN 1745 standard and ASTM C518 Part 17 test method used.

THERMAL RESISTANCE (R-Value)	
100mm thick	0.714 m <sup>2</sup> K/W
150mm thick	1.071 m <sup>2</sup> K/W
200mm thick	1.429 m <sup>2</sup> K/W

**\*\*NOTE\*\*** calculations based on walls without render and ASTM C518 Part 17 test method

THERMAL TRANSMITTANCE (U-VALUE)	
100mm thick	1.400 W/m <sup>2</sup> K
150mm thick	0.934 W/m <sup>2</sup> K
200mm thick	0.700 W/m <sup>2</sup> K

**\*\*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

Fire resistance of non-bearing wall

100mm thick

2 Hours

**\*\*NOTE\*\*** Fire Resistance Test and Classification carried out in accordance with BS 476 part 20 and 22.

Insulation

100mm thick

120 Minutes

Integrity

100mm thick

120 Minutes

**\*\*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

Block Size	Render Type	STC (dB)
100mm	15mm Plaster	44
150mm	15mm Plaster	min. 46
200mm	15mm Plaster	50

**\*\*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.

#### WEIGHT PER BLOCK

100 mm thick	9.60 kg
150mm thick	14.41 kg
200mm thick	19.21 kg

#### BLOCKS PER M<sup>2</sup>

100, 150, 200 mm thick

6.67m<sup>2</sup>

#### BLOCKS PER M<sup>3</sup>

100 mm thick

66.67 / m<sup>3</sup>

150mm thick

44.44 / m<sup>3</sup>

200mm thick

33.33 / m<sup>3</sup>

#### WEIGHT PER M<sup>2</sup>

100 mm thick

64.04 kg/m<sup>2</sup>

150mm thick

96.05 kg/m<sup>2</sup>

200mm thick

128.13 kg/m<sup>2</sup>

#### 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.

#### WALL FIXINGS

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



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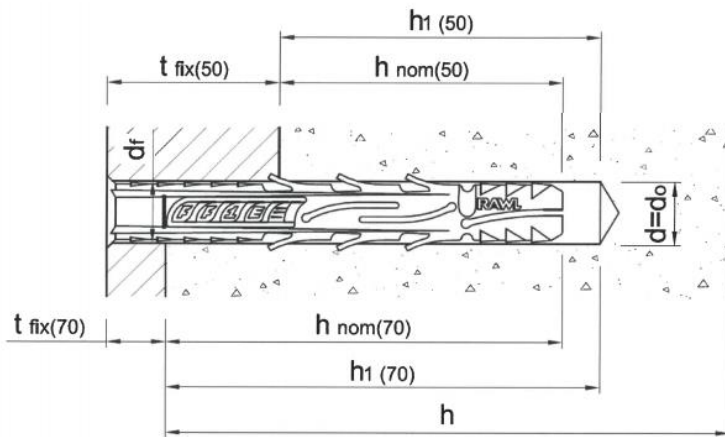
#### HEAVY DUTY WALL FIXINGS

Rawplug (Based on 3.5MPa Block)		
Product	kN (avg)	Anchor Spec
R-FF1-N-08	1.27	8 x 100mm
R-FF1-K10	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 (Based on 3.5MPa Block)		
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



#### CONFORMITY

Blocks are manufactured in accordance with EN 771-4 standard. Aertec Thin Bed Mortar is manufactured in accordance with EN 998-2 standard.

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