

EX AAC - Conventional Masonry Comparison

Comparison	AAC Class EX2/500	AAC Class EX3/600	Clay Brick Imperial NFP	Concrete Brick Imperial	Hollow Concrete Block
BLOCK PROPERTIES					
Dimensions (LxWxH)	0.600 x 0.100 x 0.250	0.600 x 0.100 x 0.250	0.222 x 0.106 x 0.073	0.220 x 0.106 x 0.072	0.390 x 0.190 x 0.090
Delivered Weight	530 kg/m ³	640 kg/m ³	1863 kg/m ³	2026 kg/m ³	1575 kg/m ³
Weight per m ²	53.03 kg/m ²	64.04 kg/m ²	198 kg/m ²	214 kg/m ²	142 kg/m ²
Dimensional Accuracy	± 3mm (L) ± 2mm (w) ± 2mm (h) EN 771-4	± 3mm (L) ± 2mm (w) ± 2mm (h) EN 771-4	± 3.5mm (L) ± 2.0mm (w) ± 2.0mm (h) No requirement for warpage on NFP SABS 227:4.3	+ 2mm (L) -4mm (L) ± 3mm (w) ± 3mm (h) Face Unit Aesthetic tolerance on the overall width shall be ± 10mm (SANS 1215)	+ 2mm (L) -4mm (L) ± 3mm (w) ± 3mm (h) Face Unit Aesthetic tolerance on the overall width shall be ± 10mm (SANS 1215)
Blocks / Bricks per m ² Excluding Joints	6.67	6.67	62	62	13.50
Compressive Strength MPa	Avg. 3.2 MPa (EN 771-4)	Avg. 5 MPa (EN 771-4)	min. 3.5 MPa (SABS 227:4.4)	min 4 MPa SANS 2001-CM1	min 3 MPa SANS 2001-CM1
PRODUCTIVITY AND ALLOWANCES					
Production Rate per Artisan per day (m ²)	Avg. 15 - 17	Avg. 15 - 17	9	9	10
Masonry Wastage Allowance	2.50 %	2.50 %	7 %	7 %	7 %
RENDERING					
Plaster thickness External	10 - 12mm	10 - 12mm	12 - 15mm	12 - 15mm	12 - 15mm
Rendering thickness Internal	3 - 8mm	3 - 8mm	12 - 15mm	12 - 15mm	12 - 15mm
Direct Skimming	Yes	Yes	No	No	No
MORTAR PROPERTIES					
Mortar Type	Thin Bed Mortar Glue	Thin Bed Mortar Glue	Conventional	Conventional	Conventional
Mortar Thickness	3mm	3mm	10 - 12mm	10 - 12mm	10 - 12mm
Mortar Wastage Allowance	6 %	6 %	10 %	10 %	10 %

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<u>THERMAL PROPERTIES</u>					
Thermal Conductivity	0.135 W/mK	0.14 W/mK	0.82 W/mK	1.4 W/mK	0.98 W/mK
Thermal Resistance	0.741 m ² K/W	0.714 m ² K/W	0.13 m ² K/W	0.08 m ² K/W	0.09 m ² K/W
Thermal Transmittance	1.35 W/m ² K	1.40 W/m ² K	7.80 W/m ² K	13.21 W/m ² K	11.11 W/m ² K
<u>STRUCTURAL SAVINGS DUE TO REDUCED DEAD LOADS - BASED ON 4 STOREY BUILDING</u>					
Reduced concrete in substructure	> 15 %	> 15 %	No Reduction	No Reduction	No Reduction
Reduced reinforcing in substructure	> 15 %	> 15 %	No Reduction	No Reduction	No Reduction
<u>FIRE RATING</u>					
Fire Resistance Excl. Render (Non-loadbearing)	> 120 minutes Classified A1 - Non Combustible (BS 476)	> 120 minutes Classified A1 - Non Combustible (BS 476)	60 minutes Clay Brick Association	90 minutes Class 2 aggregate SANS 10145	60 minutes Class 2 aggregate SANS 10145
<u>GREEN STATUS</u>					
Carbon Footprint	Green Certified Ecolabel & GBCSA	Green Certified Ecolabel & GBCSA	High CO2 Emission (Kiln burning process)	High CO2 Emission (Cement Content)	High CO2 Emission (Cement Content)
Energy Saving	> 30 % reduction in air conditioned load	> 30 % reduction in air conditioned load	No Saving	No Saving	No Saving