

Mannok Aircrete Thermal Blocks are manufactured using autoclaved aerated concrete at our manufacturing facility in Derrylin, Co. Fermanagh, N. Ireland. They are supplied in response to customer demand for a building block with efficient thermal properties combined with a high strength to weight ratio.

Applications

- Walls
- Columns
- Partitions

Product Type

- Regular shaped solid masonry unit
- Category 1 masonry unit in accordance with EN 771-4

Certifications

- British Board of Agreement - certificate no: 11/4869
- EC certificate of Factory Production Control - 0050-CPR-0971
- Environmental Management system to ISO 14001:2004 - certificate no: EMS 552208



Memberships

- Aircrete Products Association
- British Precast



Fire Resistance

Mannok Aircrete Thermal Blocks provide excellent fire protection in both load bearing and non load bearing applications. They are classed as non combustible and have a Class 0 resistance to surface spread of flame and category A1 in accordance with EN 13501-1. Block thicknesses required for fire resistance periods are shown in the table below.

	6 Hours	4 Hours	3 Hours	2 Hours	90 Mins	60 Mins
Load bearing single leaf wall	215mm	180mm	140mm	100mm	100mm	90mm
Non-load bearing single leaf wall	150mm	100mm	75mm	63mm	63mm	50mm
Load bearing cavity wall	150mm	150mm	140mm	100mm	100mm	90mm
Non-load bearing cavity wall	90mm	75mm	75mm	63mm	63mm	50mm

Performance and Properties

Gross Dry Density (Kg/m ³)	650
Mean Compressive Strength (N/mm ²)	3.6
Thermal Conductivity (W/m.K)	0.17
Dimensional Tolerance	GPLM
Dimensional stability/moisture movement (mm/m)	≤ 0.56

Block Thickness (mm) Note 1	Thermal Resistance (m ² K/W)	No. Block per pack	Wall area per pack (m ²) Note 2	Approx Block Wt. @ 3% moisture (Kg)	Approx Wt. of wall per m ² (Kg)
75*	0.44	96	9.72	4.75	47
100	0.59	72	7.30	6.33	63
115*	0.68	64	6.48	7.28	72
125*	0.74	56	5.67	7.92	78
140	0.82	48	4.86	8.87	88
150	0.88	48	4.86	9.50	94
200*	1.18	32	3.24	12.67	125
215	1.26	32	3.24	13.62	135
250*	1.47	24	2.43	15.83	157
275*	1.62	24	2.43	17.47	172
300	1.76	24	2.43	19.00	188
350	2.06	16	1.62	22.17	219

NOTES

- 1.*Sizes made to order
 2. Wall area includes and allows for 10mm conventional mortar joints
- All block face sizes are (Length x Height) 440mm x 215mm
Pack sizes are approx 900mm x 900mm x 900mm



STANDARD

Fixings

Light Duty Applications

Spiral or Helical fixings may be used for lightweight structures - skirting boards, architrave, timber battens and lightweight door frames. Fisher Aircrete Anchor GB (G8, G10 & G12) with safety screw or Fisher Turbo Aircrete Anchor FTP is also suitable for light to medium weight structures.

Medium Duty Applications

For heavier fixtures screws with nylon plugs, frame fixers, or expansion fixtures which can be nailed should be used - e.g door frames, windows, kitchen cupboards and radiators: Fisher Frame Fixing S-H-R, S-H-RS, SH 8 100, SH 10 100, S10 100 and S14 135.

Heavy Duty Applications

For fixing steel joists, garage doors, or heavy gate brackets a Fisher Resin FIS V chemical mortar fixing should be used or Fisher Fixing S-H-R in various sizes. A minimum of 50mm penetration should be achieved in all cases. Pilot holes should be drilled one size smaller than the plug to be used with a steel or woodworking bit.

Do not use plastic plugs or expanded metal fixings and do not overtighten screws.

Coursing Units

Coursing units are available in the following:

Length (mm)	Width (mm)	Height (mm)	Unit wt.(Kg)@ 3% moisture	No. units per pack	Approx wt. (Kg) per pack @ 3% moisture
215	100	65	0.95	364	345
440	100	100	2.95	112	330
440	140	100	4.10	90	370
440	150	100	4.42	90	400
440	150	150	6.63	90	600

Wall Ties and Movement Joints

Wall ties must comply with BS EN 845-1 and be embedded in the mortar of each leaf of blockwork by a minimum 50mm. Additional wall ties will be required around openings.

Block Thickness (mm)	Cavity Width (mm)	Horizontal spacing (mm)	Vertical spacing (mm)	Ties per m ²
<90mm	50 - 75	450	450	4.9
>90mm	50 - 150	900	450	2.5

Vertical Movement joints should be spaced no greater than every 6 metres.

ACOUSTIC

Mannok Aircrete Standard Blocks have a density of 650kg/m³ and so are suitable for use in party wall construction. Guidance on party wall construction can be found in Robust Details or alternatively contact the Mannok Aircrete Technical Department.

DELIVERY AND SITE HANDLING

The blocks are supplied shrink-wrapped with a Blue banding and placed on pallets suitable for off-loading with mechanical grabs or by fork-lift trucks. The colour of the banding indicates the strength of the blocks. The blocks must be stored clear of the ground on a firm, level surface and protected from rain and water from the ground. The shrink wrapping should be kept in place until the blocks are required for use.

BELOW DPC LEVEL

The blocks are resistant to freeze/thaw conditions likely to occur below the dpc and are therefore suitable for use in situations up to and including MX2.2 as defined in EN 1996-2 : 2006, Annex A, Table A1 and Annex B Table B.1.

The blocks are suitable for use in classes DS1, DS2 and DS3 of soil or groundwater as defined in BRE Special Digest 1 : 2005. In unusual soil and/or groundwater conditions, eg soils contaminated by industrial waste or highly acid soils, expert advice should be obtained.

MORTARS

The Mannok Aircrete Thermal Blocks may be built using both sand/cement mortar and thin joint mortar.

Below DPC 1:4 cement/sand + plasticiser

Above DPC 1:6 cement/sand + mortar mix (To manufacturer's instructions)

Thin joint mortar is supplied in 25Kg bags of dry, premixed powder requiring controlled water addition on site. For further information on Thin joint systems refer to Thin Joint data sheet.

Thermal Bridging

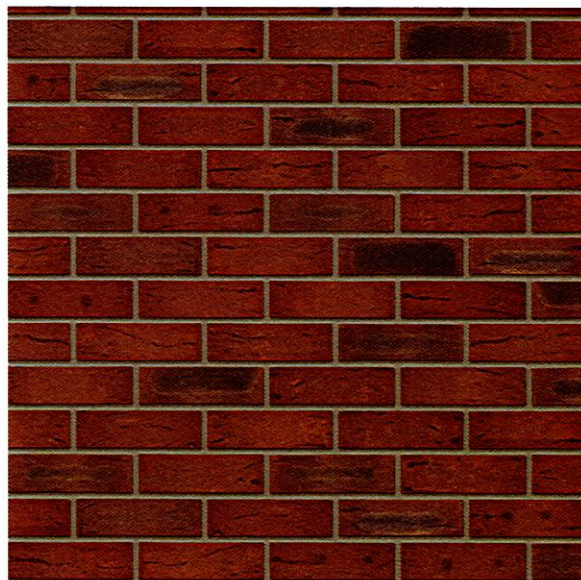
The issue of linear thermal bridging is hugely significant and is becoming more so as U-values get even lower. The heat loss from junctions can now account for as much as 40% of the heat lost. The use of Mannok Aircrete Thermal Blocks at the relevant junctions can significantly reduce the thermal bridging throughout the structure thus reducing the overall heat loss through the building fabric.



Tuscan Red Multi

Product Technical Information Sheet

Wienerberger Code	24311350
Production Plant	Hartlebury
Manufacture	Extruded Wirecut
Configuration	Vertically perforated unit
Colour	Red
Appearance	Rolled
Work Size (mm)	215 x 102.5 x 65
Pack Quantity	430
Individual Dry Brick Weight (kg)	1.66



Technical Properties to BS EN 771-1

Size Tolerance (Mean/Range)	T2/R1
Percentage of Voids / Volume of Frogs	41
Gross Dry Density (kg/m ³ /Tolerance)	1150(D1)
Compressive Strength (N/mm ²)	30
Thermal Conductivity (W/(m·K)) λ_{10,dry,unit} Value (EN 1745 tabulated: S1)	P=90% 0.6
Durability Designation	F2
Water Absorption (%)	15
Initial Rate of Water Absorption (kg/(m ² ·min))	Min 0.3 Max 2
Active Soluble Salts	S2
Reaction to Fire	A1

Technical data correct at time of issue. Individual dry brick weights can vary and are for guidance only. Any questions regarding this data should be referred to the wienerberger Technical Department. Due to the limitations of screen and print colour representation of product images it is advised that brick samples are viewed prior to ordering.

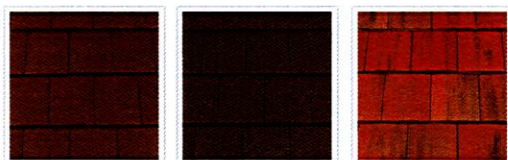
e. Wall and Landscaping enquiries

t. 0161 491 8200

w. wienerberger.co.uk

Ashmore – Concrete Interlocking Tile

Tile Design	Ashmore Concrete Interlocking Tile
Minimum Pitch	22.5° – 92mm Headlap 25° – 77mm Headlap
Maximum Pitch	90°
Size of Tile	267mm x 333mm
Minimum Headlap (Max Gauge) ((Max Rafter Length))	77mm (190mm) 92mm (175mm)
Tile Thickness	16mm (nominal)
Cover width	302mm (nominal)
Covering Capacity (net)	77mm Headlap – 17.5 tiles/m ² 92mm Headlap – 19 tiles/m ²
Weight of Tiling	77mm gauge - 48kg/m ² (0.47 kN/m ²) 92mm gauge - 52kg/m ² (0.51 kN/m ²)
Quantity Per Pallet	Ashmore Tiles – 276
Battens Required	77mm gauge – 5.3 lin.m/m ² 92mm gauge – 5.7 lin.m/m ²
Recommended Batten Size	38mm x 25mm for rafters not exceeding 450mm centres 50mm x 25mm for rafters not exceeding 600mm centres
Underlay	Vapour Permeable (MA33150) Non Vapour Permeable (MA33145)
Tile Colours Available	Smooth Brown (S) (MA14252) Smooth Grey (S) (MA14228) Old English Dark Red (S) (MA14280) S – Smooth Finish



Smooth Brown
MA14252

Smooth Grey
MA14228

Old English Dark
Red MA14280

Ashmore – Concrete Interlocking Tile

Ventilation

Ventilation

25mm Eaves/Low Level Ventilation (MA46351) Warm Roof
 10mm Eaves/Low Level Ventilation (MA46350) Cold Roof
 5mm Ridge Ventilation Ridgefast System Warm/Cold Roof
 Ridge Vent Terminal (MA19800)
 Ashmore Contour Tile Vent (MA45000)
 Ashmore Ventilation Roof Tile (MA26300)
 Universal Tile Vent (MA3670)
 Gas Vent Ridge Terminal (MA25600)
 Gas Vent Ridge – For Condensing Boiler Only Segmental (MA25400) Modern (MA25500)
 Flexible Pipe – MA39091
 Universal HipFast System (MA53400)

Verge

Undercloak – Mortar Bedded

Fibre Cement Undercloak – 38mm - 50mm Overhang – with Verge Clips (MA30263)

Dry Verge

Ashmore Dry Verge LH (MA396) RH (MA39700)
 Ashmore Dry Verge Starter Kit (MA39901)
 Ashmore Segmental Ridge Cap (MA39800)
 Stop end Ridge - Segmental (MA19100) – Modern (MA37400)
 Segmental Mono Stop end LH (18900) RH (MA19000)
 Modern Mono Stop End LH (MA37500) RH (MA37600) Continuous Dry Verge (MA38501)
 Continuous Dry Verge Fixing Kit (MA38510)

Eaves

Eaves

25mm Eaves/Low Level Ventilation (MA46351) Warm Roof
 10mm Eaves/Low Level Ventilation (MA46350) Cold Roof
 Comb Filler Strip (MA30425)
 Eaves Clips (MA30297)

Ashmore – Concrete Interlocking Tile

Abutment

Side Abutment	Ashmore Dry Soaker LH (MA30472) RH (MA30473) Step and Cover Flashing with Soakers Lead Step and cover flashing in accordance with the LSTA1 guidelines Dry Soakers LH (MA30472), RH (MA30473)
Top Abutment	Top Abutment Ventilation system ² – multiple products required Batten section (Steep Pitch) Batten section (Standard) Fixing kit Ashmore filler unit (vented) Lead support strip FlexFast – Lead Replacement roll (MA42610/MA42611) FlexFast Trim (MA42345) Lead flashing in accordance with the LSTA ¹ guidelines

Ridges

Ridge Tiles	Segmental Ridge Tile Segmental Stop End Ridge Modern Ridge Tile Modern Ridge Stop End
Ridge – Dry Fix	UNIVERSAL RidgeFast2 (MA53300)
Mono-Ridge – Dry Fix	Ventilated Dry Ridge ² System Dry Ridge Batten section 3m (MA41101) Steep ridge batten section 3m (MA41102) Ridge fixing kit 6m (MA41000) Segmental Ridge union (MA41300) Modern ridge union (MA41400) Ashmore filler unit (MA41501) Segmental Mono Stop end (Dry-Fix Compatible) LH (MA18900) RH (MA19000) Segmental mono ridge union (MA42300)
Ridge - Mortar Bedded	Segmental Ridge Tile Modern Ridge Tile Segmental Stop End Ridge Modern Stop End Ridge 90° Angle Ridge Tile 90° Angled Stop End Mortar Bedded Security Ridge Fixing Kit (MA54365)
Mono-Ridge – Mortar Bedded	Segmental Mono Stop end (Dry-Fix Compatible) LH (MA18900) RH (MA19000) Modern Mono Pitch Ridge Tile LH (MA37500) RH (MA37600) Mechanical fixing via 2no. screw holes to rear of tile

Ashmore – Concrete Interlocking Tile

Hips and Valleys

Hip – Mortar Bedded	Concrete Angled Ridge/Hip Tile Modern Hip Tile Modern stop end hip Third Round Concrete Hip Tile Mortar Bedded security hip fixing kit (MA54366)
Hip – Dry Fix	UNIVERSAL HipFast2 (MA53400) HipFast Support trays (MA34002) Dry Hip System Dry Hip Batten Section 3m (MA43300) Dry hip fixing kit – 1 per batten section (MA54360) Third round hip union (MA43500) Modern ridge union (MA4140) Ashmore Filler unit (vented) (MA41501) Third Round stop end hip tile (MA29100) Modern stop end hip tile (MA29200)
Valley	Universal GRP Dry Valley – Low Profile (MA30422) maximum pitch 60° Lead Valley – in accordance with ¹ LSTA guidelines
Other products	Third Round/ Modern Hip Apex Cap – Pitch Dependant Bonding Gutter – Low Profile (MA40470) maximum pitch 60° Ashmore Three Quarter Tile LH (MA17200) Ashmore Three Quarter Tile LH (MA17300) Ashmore Tile and Half (MA14600)

*Ashmore tiles should be laid broken bond. The required broken bond pattern is created by the introduction of three-quarter width tiles in alternate courses. Tile-and-a-half tiles are available for use at hips and valleys.

Fixings

Fixing	Due to several factors including, but not limited to, location and building design, a bespoke Roof Fixing Specification must be obtained. All perimeter tiles must be twice fixed in accordance with BS 5534.
Clips	Secret Cut Tile Clip (MA43607) Verge Clips & Nails (MA30263) Eaves Clip (MA30297) Batten End Clips (MA30214)
Nails	45mm x 3.35mm (MA30398) If in a coastal location stainless steel nails maybe required.

Ashmore – Concrete Interlocking Tile

Other

Useful Links	CAD Details
	Roof Fixing Specification
	Product Catalogue
	BIM
	Standards & Certificates
	Request a sample
Sustainability	A+ rated in the BRE Green Guide BES 6001 Responsible Sourcing Certified Carbon Footprint Measurement
Authority	BS EN 490
British Standards	BS 5534 – Slating and for pitched roofs and vertical cladding – Code of practice BS 5250 – Code of practice for control of condensation in buildings BS 8000-6 - Workmanship on building sites – Code of practice

*Some product codes have been published, if you require a code which is not present please contact our Technical Team on 01283 722230

** This publication is based on the latest data available at the time of printing. Due to product changes, improvements and other factors, the Company reserves the right to change or withdraw information contained herein without prior notice. For specific applications users should refer to the Technical Advisory Service and relevant Standards and Codes of Practice for guidance. The photography shown in the document should not necessarily be taken as recommendations of good practice. The printing process restricts the exact representation of colours. For true colour reference, please request product samples.

¹LTSA – The Lead Sheet Training Academy

² provides 5mm continuous ventilation