INTERCRETE MIDI MASONRY UNITS

DESCRIPTION

A general purpose, solid masonry unit produced using natural dense Class 2 aggregates. Designed to allow Architects and Designers to specify a 140mm wide unit, with a unit weight of less than 20 kg, making it suitable for single person repetitive lifting. Available in strengths of 7.3N/mm^2 to 40N/mm^2. Where greater load distribution is required Midi units can be laid flat to produce a wall of 215mm width.

Manufactured to BS EN 771-3 & associated test standards

- Low Unit Weight, less than 20kg
- Complies with HSE Guidelines on Manual Handling
- Design flexibility with 140mm width
- Wide range of compressive strengths 7.3 - 40N/mm^2
- Performance characteristics similar to conventional solid Intercrete units
- Available as standard or close textured version

APPLICATION

Intercrete Midi units are intended for use in walls above and below DPC, including use in sulphate soil classes DS-1, DS-2 and DS-3. They are particularly suitable where high strength and acoustic sound requirements are specified. They can be plastered, rendered or drylined. Midi units are also available in a close textured version for walls to be built fair, left undecorated or paint finished.

FORMAT AND SIZE

140mm width solid units.

Face work size 290mm x 215mm.

Tolerances as EN 771-3, Tolerance category D1 .

Unit length and height +3, -5mm.

Unit width +3, -5mm.

PHYSICAL PROPERTIES

Relationship of density / strength.

EN772-13 Gross Dry Density - Category II Materials.

7.3 N/mm^2 -17.5 N/mm^2, 2000 kg/m^3.

22.5 N/mm^2 - 40 N/mm^2, 2050 kg/m^3.

INTERFUSE
MASONRY BLOCKS

UNIT AND LAID WEIGHTS

TABLE 1: UNIT AND LAID WEIGHTS

	UNIT WEIGHT (kg)	LAID WEIGHT INC. MORTAR (kg/m²)140mm WALL	LAID WEIGHT INC. MORTAR (kg/m²)215mm WALL
Midi 7.3, 10.5, 17.5 - 40N/mm²	18.0	280	430

DESIGN PROPERTIES

WATER VAPOUR PERMEABILITY

EN 1745 Table A3 Water vapour diffusion coefficient μ 5/15.

MOISTURE MOVEMENT

As tested to EN 772-14 : 2002.

Total movement = 0.27mm/m.

MODULUS OF ELASTICITY

Static modulus of Intercrete Midi is approximately 3-8kN/mm².

DURABILITY AGAINST FREEZE THAW

Frost-resistance in accordance with PD 6697.

SHEAR BOND STRENGTH

Declared Value 0.15N/mm² in accordance with EN 998-2 Annex C.

THERMAL MOVEMENT

Coefficients of linear expansion is 10 x 10^{-6}/0C.

THERMAL CONDUCTIVITY

The thermal conductivity values are based on Table 3.1, CIBSE Guide 1999.

TABLE 2: THERMAL CONDUCTIVITY

CONCRETE DENSITY 1900 - 2000kg/m³	W/mK (LAMDA VALUE) MOISTURE CONTENT	
	3%	5%
	1.28	1.37

THERMAL RESISTANCE

For a unit width of 140mm, the thermal resistance may be taken as 0.11m^{2}W/K at 3% moisture content.

The wall 'U' value must be calculated using method in BS EN ISO 6946

SOUND REDUCTION (RW)

The sound reduction values for standard and close textured Midi units are shown in Table 3. This data is based on the Mass Law.

TABLE 3: SOUND REDUCTION (VALUES IN dB)

WALL THICKNESS	140mm	215mm
NO FINISH	49	50
PAINTED	50	51
LIGHTWEIGHT PLASTER*	51	54
DENSE PLASTER*	52	55
DRY LINED*	51	54

*NOTE: Sound Reduction figures Rw (dB) based on fully ironed jointwork and sealed abutments to soffit and structure including all finishes (i.e. no air leakage gaps). 215mm refers to 140mm units laid flat. * Assumed finish to both sides.*

For compliance with Building Regulations AD E Wall Type 1.1., Midi units laid to a 215mm width should provide similar performance to 100mm solid blocks laid flat.

FIRE RESISTANCE

The following Fire Resistance table is based upon EN 1996–1–2: 2005, Table NA.3.1 and NA.3.2. These are valid for walls without finishes, designed to EN 1996, Part 1–1.

TABLE 4: FIRE RESISTANCE (HOURS)

		BLOCK THICKNESS (mm)	
	(CRITERIA)	140	215
MIDI UNITS - ANY STRENGTH			
NON LOADBEARING	(E1)	4	4
LOADBEARING	(RE1)	3	4

The application of plaster finishes to the blockwork will increase the fire resistance period.

CUTTING, CHASING, FIXING

Mechanical cutting is recommended and essential for masonry units built fair and reduces wastage. Chasing dense concrete material is laborious and should be avoided whenever possible.

If unavoidable it should be carried out using mechanical means.

Fixings for domestic fittings can be made using traditional plugs and screws. Refer to Interfuse Design Guide for further information.

MORTAR MIX

Suitable mortar mixes for use with Midi blocks are shown in Table 5. The thickness of mortar joints should be approximately 10mm.

TABLE 5: RECOMMENDED MORTAR MIXES

LOCATION	MORTAR DESIGNATION	COMPRESSIVE STRENGTH CLASS	PRESCRIBED MIX
WORK ABOVE DPC	(iii)	M4	1:1:6 cement: lime: sand, or 1:5 to 6 cement: sand*
WORK BELOW DPC	(iii)	M4	1:1:6 cement: lime: sand, or 1:5 to 6 cement: sand*
	(ii)	M6	1½: 4 to 4½ cement: lime: sand or 1:3 to 4 cement: sand*

* Mixes can be used with or without air entrainment. Plasticisers should be used only with the designer's approval and should be gauged in accordance with the manufacturer's written instructions.

FINISHES - INTERNAL PLASTER

Lightweight plaster. Suitable undercoats include British Gypsum's Thistle Bonding , Thistle Hardwall and Thistle Tough Coat. The finishing coat can include Thistle Multi-Finish.

Dense plaster. A backing coat of 1:1:6 cement: lime: sand or 1:5 to 6 cement: sand, with added plasticiser with a setting coat of gypsum plaster, e.g. Thistle Multi-Finish or similar.

FINISHES - EXTERNAL RENDERING

Depending on exposure conditions, it may be necessary to treat the surface with a spatterdash coat of 1:1 cement: sand: followed when dry and hard with a backing coat 10mm thickness of 1:1:6 cement: lime: sand, ruled out, and lightly scratched.

A final or subsequent coat of 5 mm thickness using the same mix finished with a wood float, is applied. All types of paint finishes are satisfactory.

CERAMIC TILING

In housing where walls are often plastered, ceramic tiling is fixed with proprietary adhesive. In buildings other than housing, the wall is rendered using a mix of 1:4 cement: sand, ruled out level, and the tiles are fixed using an adhesive. Adequate drying time should be given to the render coat before tiling commences.

DIRECT DECORATION

Midi Close Textured units can be painted directly using cement or water-based paints. An economic finish can be achieved using a mist coat (diluted emulsion) followed by 2 coats of emulsion. The paint can be brush or spray applied. The opacity will depend upon the quality of the paint and the number of coats applied.

DRYLINING

Drylining using Gypsum Wallboard or similar, fixed either by adhesive dabs, or screw fixing to metal firrings, or nailing to timber battens. If required, thermal laminate plasterboards can be used, fixed in accordance with the manufacturer's recommendations.

QUALITY CONTROL

Interfuse Ltd operates a formalised Quality Assurance system at both Syston and Gainsborough plants. All masonry units are subject to stringent quality control checks and are tested daily in our own laboratory.

A documented factory production control system is in operation with regular checks made on raw materials, production and finished units. A stock control system is in operation with written procedures for non-conforming products. All products are produced to the current European Standards.

MARKING

Each pack is marked for traceability of product and unit clarification as given on the delivery ticket.

SUSTAINABILITY

Interfuse Ltd is certified to BRE's Standard for Responsible Sourcing of Construction Products, BES 6001, obtaining a "Very good" performance rating.

The environmental impact of Midi constructions can be assessed by referring to BRE's Green Guide to Specification, with many constructions achieving the highest A or A+ rating.

At the end of the life of the building, Midi units, which are inert, can be crushed down and recycled. Their use in buildings will far

exceed the usual 60-year design life expectancy, making Intercrete Midi a very sustainable material.

DELIVERED LOADS DATA

Prices quoted per 10 units. 15 units to m^2 of wall. All prices include mechanical off-loading and apply to full loads. Load sizes may vary between 19 tonne Rigids, 20 - 27 tonne Artics.

- Part Loads are subject to special quotations.
- Units per pack - 72 Weight per pack - 1.27 tonne.
- 19 tonne load Approx no of units per load - 1008.
- Artic load.
- Approx no of units per load - 1512.
- Units should be stored on firm, level ground no more than 2 packs high.