

# INTERLYTE-ULTRA MASONRY UNITS

## DESCRIPTION

Interlyte-Ultra lightweight units are manufactured from a blend of lightweight aggregates and cement. It is a general purpose masonry unit of low density and weight available in strengths of 3.6 & 7.3N/mm<sup>2</sup>.

The standard unit has a textured face which is ideal for plastering, rendering and drylining. Material colour is light to dark grey.

*Manufactured to BS EN 771-3 and associated test standards*

- Ultra lightweight aggregate masonry units
- Available in Solid format
- Excellent key for plastering/rendering/ drylining
- Low Dry Shrinkage
- Easy to work, cut and chase
- Fire Resistance Euroclass A1
- High Thermal Insulating Performance
- Unit Weight less than 20 kg, satisfying HSE Guidelines on repetitive manual handling

## APPLICATION

Interlyte-Ultra units are suitable for use in the following locations:

- Outer and inner leaves of cavity walls with an appropriate insulating material.
- Internal partition walls, loadbearing or non-loadbearing, solid units at 3.6N/mm<sup>2</sup> & 7.3N/mm<sup>2</sup> strength (see physical properties for density required).
- Inner leaf of external walls below DPC in accordance with PD6697.
- Infill units for use in conjunction with concrete beam floors.

## FORMAT AND SIZES

Available in solid format.

Face work size is 440mm x 215mm.

Tolerances as EN 771-3, Tolerance category D1.

Unit length and height +3, -5mm.

Unit width average mm +3, -5mm.

## PHYSICAL PROPERTIES

Relationship of Density / Strength approx (Solid units).

EN772-13 Gross Dry Density - Category II Materials.

3.6N/mm<sup>2</sup> - 850 kg/m<sup>3</sup>.

7.3N/mm<sup>2</sup> - 900 kg/m<sup>3</sup>.

TABLE 1: UNIT AND LAID WEIGHTS

	UNIT WEIGH (kg)		LAID WEIGHT INC. MORTAR (kg/m <sup>2</sup> )	
	3.6N/mm <sup>2</sup>	7.3N/mm <sup>2</sup>	3.6N/mm <sup>2</sup>	7.3N/mm <sup>2</sup>
INTERLYTE-ULTRA 100mm	9.0	9.5	102	107
INTERLYTE-ULTRA 140mm	12.5	13.0	145	148

## DESIGN PROPERTIES

### WATER VAPOUR PERMEABILITY

EN 1745 Table A3 Water vapour diffusion coefficient  $\mu$  5/15.

### MODULUS OF ELASTICITY

Static modulus of Interlyte-Ultra is approximately 8kN/mm<sup>2</sup>.

### MOISTURE MOVEMENT

As tested to EN 772-14.

Total movement = 0.56 mm/m.

### DURABILITY AGAINST FREEZE THAW

Frost-resistance in accordance with PD 6697. Not to be exposed.

### SHEAR BOND STRENGTH

Declared value 0.15N/mm<sup>2</sup> in accordance with EN 998-2 Annex C.

### THERMAL MOVEMENT

Coefficient of linear expansion is  $10 \times 10^{-6}$  /°C.

### THERMAL CONDUCTIVITY

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

TABLE 2: *THERMAL CONDUCTIVITY*

SOLID UNITS		
DENSITY	W/mK (LAMDA VALUE)	
kg/m <sup>3</sup>	MOISTURE CONTENT	
850	3%	5%
	0.23	0.24
900	0.310	0.340

## THERMAL RESISTANCE

The thermal resistance (m<sup>2</sup>K/W) is determined at a 3% moisture content.

TABLE 3: *THERMAL RESISTANCE*

SOLID UNITS		
STRENGTHS N/mm <sup>2</sup>		WIDTHS mm
-	100	140
3.6	0.44	0.61
7.3	0.32	0.45

## SOUND REDUCTION (RW) VALUES

(Data based on Mass Law).

The frequency range is 100-3150 Hz.

TABLE 4: *AVERAGE SOUND REDUCTION VALUES*

SOLID UNITS					
WALL WIDTH mm	NO FINISH	PLASTER L/WEIGHT	PLASTER DENSE	DRY LINED	PAINT FINISH
100	40	41	42	41	-
140	43	44	45	44	-

## FIRE RESISTANCE

Interlyte-Ultra units are classified as Euroclass A1, as defined in EN ISO 1182.

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 5: FIRE RESISTANCE (HOURS)

BLOCK THICKNESS (mm)			
	(CRITERIA)	100	140
SOLID UNITS - ANY STRENGTH			
NON-LOADBEARING	(E1)	4	4
LOADBEARING	(RE1)	2	3

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

## CUTTING, CHASING, FIXING

### Cutting:

Easily cut with a bolster. Use of mechanical cutting lowers wastage and enables cleaner cuts when fair face work is involved. Norton Clipper masonry saws or similar are recommended.

### Chasing:

For fast efficient chasing, use a disc cutter or Kango electric hammer with chasing bit.

### Fixings:

Use cut nails or screw fixings and proprietary plugs into standard strength material. Masonry nails may be required into high strength material.

## MORTAR MIX

Suitable mortar mixes for use with Interlyte-Ultra blocks are shown in Table 6. The thickness of mortar joints should be approximately 10mm.

TABLE 6: 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 Browning, 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*

Backing coat should be 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*

Interlyte-Ultra 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

The environmental impact of Interlyte-Ultra 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, Interlyte-Ultra 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 Interlyte-Ultra a very sustainable material.

## DELIVERY / LOAD DATA

Prices quoted per 10 blocks units (9.88 blocks per m<sup>2</sup>) Prices include mechanical off loading and apply to full loads. Part loads are subject to special quotation.

Interlyte-Ultra units are not considered suitable for party wall application. For guidance in which units can be used out of the Interfuse range contact our Technical Department or visit our website on [www.interfuseblocks.com](http://www.interfuseblocks.com).

TABLE 7: **DELIVERY LOAD DATA**

INTERLYTE - ULTRA - SOLID UNITS		
WIDTHS mm	100	140
APPROX NO OF UNITS PER 19 TONNE LOAD	1620	1080
APPROX NO OF UNITS PER 24 TONNE LOAD	2160	1440
APPROX NO OF UNITS PER 27 TONNE LOAD	2160	1440
UNITS PER PACK	90	60