



Waddington
Sandstone

Technical Data Sheet

Waddington Sandstone

Waddington Quarry

Fell Rd, Waddington, Nr. Clitheroe, Lancashire, BB7 3AA

Contact : Waddington Fell Quarries Ltd

Tel . 01200 446334

Grid reference : - - - -

Compiled May 2000

This data sheet was compiled by the Building Research Establishment (BRE). It is based on data from current tests at BRE (2000). The data sheet was compiled in May 2000. The work was carried out by BRE as part of a Partners in Technology Programme funded by the Department of the Environment, Transport and the Regions and Waddington Fell Quarries Ltd. and does not represent an endorsement of the stone by BRE.

General

Waddington quarry is near Clitheroe, Lancashire and produces quarry blocks up to 5 x 4 x 2.8 m (2.8 m on bed) with a maximum size of up to 10 tonnes. Materials are sawn on site to give a sawn product range 0.21 – 0.1 m on bed of length 0.41 m and width 0.14 – 0.1 m. Only sawn products are supplied.

Petrography

Waddington is a buff to grey coloured, fine to coarse grained sandstone from the Millstone Grit series of the Carboniferous.

Expected Durability and Performance

It is important that the results from the individual tests are not viewed in isolation. They should be considered together and compared to the performance of the stone in existing buildings and other uses. Sandstone is traditionally acknowledged as generally being a very durable building and paving stone and has been used extensively in many towns and cities in the UK. Waddington sandstone appears to be a durability stone that will have good resistance to acid rain or air pollution. In addition, the negligible weight loss in the sodium sulphate crystallisation test indicates high resistance to salt damage (for example in coastal locations or from de-icing salts). From the frost test the stone should also have high frost resistance. The compressive and flexural strength of the stone is in the lower third for a sandstone and is comparable with many sandstones. The density and compressive strength indicate that the stone should be suitable for use in moderate to heavily trafficked areas.

Overall, Waddington should be suitable for use in most aspects of construction including flooring, paving, load bearing masonry and cladding. The stone is

suitable for areas where a long service life is needed. The stone is traditionally used for load bearing masonry and is not available for cladding, flooring, paving or veneers.

Test Results – Waddington Fell

Safety in Use		
Slip Resistance ^(Note 1)	68	Wet. Values > 40 are considered safe.
Abrasion Resistance ^(Note 1)	Not tested	Values <23.0 are considered suitable for use in heavily trafficked areas
Strength under load		
1) Compression ^(Note 2)	90.4 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	5.6 MPa	Loaded perpendicular to the bedding plane ambient humidity

	Not tested	Loaded parallel to the bedding plane ambient humidity
Porosity and Water Absorption		
1) Porosity ^(Note 3)	14.3%	
2) Saturation Coefficient ^(Note 3)	0.56	
3) Water Absorption	3.5% (by wt)	
4) Bulk specific gravity	2272kg/m ³	
Resistance to Frost		
Flexural strength after Freeze/Thaw Test ^(Note 1)	5.7 MPa	Loaded perpendicular to the bedding ambient humidity
Resistance to Salt		
Sodium Sulphate Crystallisation Test ^(Note 3)	-0.26% Mean wt loss	

Resistance to Acidity		
Acid Immersion Test ^(Note 4)	Pass	

(Test methods Note 1 = prEn1341, Note 2 = prEn 1342, Note 3 = prEn 1341 /BRE 141, Note 4 = BRE 141)

Tests were carried out at BRE in 2000