



Wattscliffe Lilac
Gritstone

Technical Data Sheet

Wattscliffe Lilac Gritstone

Wattscliffe Quarry, near Elton, Derbyshire
Bolehill Quarry, Wingerworth, Derbyshire, S42 6RG

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Grid reference : -- --

Compiled November 1997, updated June 2000

This data sheet was compiled by the Building Research Establishment (BRE)., The data sheet was compiled in November 1997 and updated in June 2000 using BRE test results and data collected in earlier surveys. 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 Blockstone Ltd and does not represent an endorsement of the stone by BRE.

General

The quarry is about three-quarters of a mile from Elton on the road from Elton to Alport. It was opened in the 19th century to supply grindstones. Records show that it has been used for buildings since at least 1926.

Petrography

Wattscliffe Lilac Gritstone is a sandstone is from the Millstone Grit of Carboniferous age. It is a fine- to medium-grained stone, lilac to pink in colour with occasional buff/white intrusions. The average block sizes are 2000mm x 1000mm x 1000mm.

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. Sandstones from the Millstone Grit are traditionally acknowledged as generally being a very durable building and paving stone and have been used extensively in many towns and cities in the UK. Wattscliffe Gritstone appears to be a durable stone that is not effected by acid rain or air pollution. Most sandstones have good frost resistance. The failure in the harsh saturated sodium sulphate crystallisation test usually indicates susceptibility to salt damage (for example in coastal locations or from de-icing salts) but evidence from use on the coast in the north-west of England shows that it performs well in this type of environment. The compressive strength of the

stone is typical of the range for sandstones and is comparable with that for the stronger UK limestones.

Overall, Wattsccliffe should be suitable for use in most aspects of load bearing masonry and cladding but should not be used in areas where a long service life is needed in locations with a high salt concentrations.

Test Results – Wattsccliffe

Safety in Use		
Slip Resistance ^(Note 1)	Not determined	Values > 40 are considered safe.
Abrasion Resistance ^(Note 1)	Not determined	Values <23.0 are considered suitable for use in heavily trafficked areas
Strength under load		
1) Compression ^(Note 2)	79.1 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	4.8 MPa	Loaded perpendicular to the bedding plane ambient humidity

	7.6 MPa	Loaded parallel to the bedding plane ambient humidity
Porosity and Water Absorption		
1) Porosity ^(Note 3)	12.49%	
2) Saturation Coefficient ^(Note 3)	0.64	
3) Water Absorption	3.44 % (by wt)	
4) Bulk specific gravity	2312kg/m ³	
Resistance to Frost		
Freeze/Thaw Test ^(Note 1)	Not determined	Note: the stone Passed Test B using DIN 52 104
Resistance to Salt		
Sodium Sulphate Crystallisation Test ^(Note 3)	-0.44% Mean wt loss	

Sodium Sulphate Crystallisation Test (Note 14) (saturated)	Mean wt loss	All cubes failed before the end of the test
Resistance to Acidity		
Acid Immersion Test ^(Note 4)	Pass	All samples passed the test with no splitting or delamination

(Test methods Note 1 = prEN1341, Note 2 = prEN 1342, Note 3 = prEN 1341 /BRE 141, Note 4 = BRE 141.)

All based on BRE 1986 data and data supplied by the producer)