



Stanton Moor Sandstone

Technical Data Sheet

Stanton Moor Sandstone

Dale View/Palmer's Quarry

Grangemill, Matlock, Derbyshire, DE4 4BW

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This data sheet was compiled by the Building Research Establishment (BRE). It is based on data from tests carried out by other test laboratories, collated BRE data and from current tests at BRE (1997 and 2000). The data sheet was compiled in July 1997 and updated 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 Stancliffe Stone Company Ltd and does not represent an endorsement of the stone by BRE.

General

The quarry is on the southern outskirts of the village of Stanton-in-Peak near Matlock. The site is off the Birchover Road.. The present quarry was re-opened in 1983. Blocks are available up to 12 tonnes in weight with block sizes 1.5 x 3 x 3 m. Depths on bed vary from 1.5 – 3.6 m with lengths 0.7 – 1.8 m. Sawn material is produced at the stoneworks of Stancliffe Stone Company Ltd.

Petrography

Stanton Moor is a buff and pink/buff fine to medium grained sandstone from the Carboniferous Millstone Grit series.

Expected Durability and Performance

It is important that the results from the from 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 series 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. Stanton Moor sandstone appears to be a durable stone that is not effected by acid rain or air pollution. The weight lost in the harsh saturated sodium sulphate crystallisation test indicates limited resistance to salt damage in very severe environments (for example in coastal locations or from de-icing salts); the results suggest that the stone would have good frost resistance. The compressive strength of the stone is typical of the range for comparable with

sandstone. The flexural strength is towards the lower end of the range for sandstones and if used for paving then the units may need to be thicker than those for some other sandstones. The abrasion resistance is comparable with York paving stones and should be suitable for use in heavily trafficked areas.

Overall, Stanton Moor should be suitable for use in most aspects of construction including flooring, paving, load bearing masonry and cladding. Traditional usage is for walling and dressed stone. The stone may not be suitable for areas where a long service life or exposure to salts is required.

Test Results – Stanton Moor

Safety in Use		
Slip Resistance ^(Note 1)	Wet: 70	Values > 40 are considered safe.
Abrasion Resistance ^(Note 1)	20.1 (20.1-22.6 range)	Values <23.0 are considered suitable for use in heavily trafficked areas
Strength under load		
1) Compression ^(Note 2)	79.0 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	8.9 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)	14.8%	
2) Saturation Coefficient ^(Note 3)	0.67	
3) Water Absorption	4.4% (by wt)	
4) Bulk specific gravity	2259kg/m ³	
Resistance to Frost		
Flexural strength after Freeze/Thaw Test ^(Note 1)	7.9 MPa	Loaded perpendicular to the bedding ambient humidity
Resistance to Salt		

Sodium Sulphate Crystallisation Test (Note 3)	8.46% Mean wt loss	
Resistance to Acidity		
Acid Immersion Test ^(Note 4)	Pass	

(Test methods Note 1 = EN1341, Note 2 = EN 1342, Note 3 = EN 1341 /BRE 141, Note 4 = BRE 141)

Tests were carried out at BRE in 1997 and 2000