



Silex Sandstone

Technical Data Sheet

Silex Sandstone

Pond Quarry

Harley Head Farm, Hipperholme, Halifax, W Yorks, HX3 8BW

Contact : Pond Quarry Stone Co

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Grid reference : -- --

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This data sheet was compiled by the Building Research Establishment (BRE). It is based on current tests carried out 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 Pond Quarry Stone Co. and does not represent an endorsement of the stone by BRE.

General

Pond Quarry is near Halifax, West Yorkshire.

Petrography

Silex stone is a sandstone from the Coal Measures of Carboniferous Age.

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. Silex sandstone appears to be a durable stone that will have good resistance to acid rain or air pollution. In addition, the low 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 small strength losses in the frost test the stone should also have good frost resistance. The compressive and flexural strength of the stone is at the upper end for a sandstone and is high comparable with many sandstones. The density and compressive strength indicate that the stone should be suitable for use in heavily trafficked areas.

Overall, Silex should be suitable for use in most aspects of construction including flooring, paving, load bearing masonry and cladding. Traditionally the stone is worked for paving. The stone is suitable for areas where a long service life is needed.

Test Results – Silex Sandstone

Safety in Use		
Slip Resistance ^(Note 1)	67	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)	166.4 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	22.7 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)	10.4%	
2) Saturation Coefficient ^(Note 3)	0.58	
3) Water Absorption	2.5 % (by wt)	
4) Bulk specific gravity	2384kg/m ³	
Resistance to Frost		
Flexural strength after Freeze/Thaw Test ^(Note 1)	18.7 MPa	Loaded perpendicular to the bedding plane ambient humidity
Resistance to Salt		
Sodium Sulphate Crystallisation Test ^(Note 3)	-1.05% Mean wt loss	
Resistance to Acidity		

Acid Immersion Test ^(Note 4)	Pass	
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(Test methods Note 1 = EN 1341, Note 2 = EN 1342, Note 3 = EN 1341 /BRE 141, Note 4 = BRE 141)

Tests were carried out at BRE in 2000