Farmington

Technical Data Sheet
Farmington

Farmington Natural Stone Ltd
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This data sheet was compiled by the Building Research Establishment (BRE). Where possible, data collected in earlier surveys has been used to help interpret the test results. The data sheet was compiled in September 1999 using the results of tests carried out to the proposed European Standards. 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 Farmington Natural Stone Ltd and does not represent an endorsement of the stone by BRE.

General

The quarry is at Farmington which is 3.5km north of Northleach on the A429, The quarry has been in production since the 1980s but there is long tradition of quarry working in the area. There are very large reserves of stone. The maximum block size is 1000 x 700 x 700mm bed height.

Petrography

The stone is an oolithic limestone and the beds are part of the Inferior Oolite of middle Jurassic age.

Expected Durability and Performance

It is important that the results from the sodium sulphate crystallisation tests are not viewed in isolation. They should be considered with the results from the porosity and water absorption tests and the performance of the stone in existing buildings. Stone from the Cotswold region is traditionally used as building stone in the region and increasingly in many other towns and cities in the UK. The high water absorption and porosity indicate a very open stone that should have good resistance to weathering. The sodium sulphate crystallisation result indicates that the stone will have moderate resistance to salt damage and that it will perform well in all but the most exposed locations where it may it may require some extra protection or careful design and detailing to shed water. The strength is towards the lower end of the range for limestones but the performance should satisfactory if the relevant British Standards are followed.

The abrasion resistance is low and so the stone should only be used in lightly trafficked areas.

Test Results – Farmington Limestone

Safety in Use		
Slip Resistance (Note 1)	N.D.	Values > 40 are considered safe
Abrasion Resistance (Note 1)	36	Values <23.0 are considered suitable for use in heavily trafficked areas
Strength under load		
1) Compression(Note 2)	13.0 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending (Note 1)	5.0 MPa	Loaded perpendicular to the bedding plane ambient humidity

	2.8 MPa	Loaded parallel to the bedding plane ambient humidity
Porosity and Water Absorption		
1) Porosity (Note 3)	27.7%	
2) Saturation Coefficient (Note 3)	0.59	
3) Water Absorption	8.4% (by wt)	
4) Bulk specific gravity	1966kg/m^3	
Resistance to Frost		
Freeze/Thaw Test (Note 1)	N.D.	
Resistance to Salt		
Sodium Sulphate Crystallisation Test (Note 3)	26.75% Mean wt loss	

(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. N.D. = not determined