



— Flick Quarry

Technical Data Sheet

Flick Quarry

Hanson Bath and Portland Stone

Flick Quarry, Nr Little Rollright, Chipping Norton, Oxon.

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Grid Reference: – – –

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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 Hanson Bath and Portland Stone and does not represent an endorsement of the stone by BRE.

General

The quarry is near Little Rollright, Chipping Norton. There are plenty of reserves.

Petrography

The stone is an oolitic 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 low porosity and high strength indicate a stone that will have good resistance to weathering. The sodium sulphate crystallisation result also indicates that the stone will have good resistance to salt damage and that it will perform well in all but the most exposed locations where it may require some extra protection or careful design and detailing to shed water.

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

Test Results – Flick

Safety in Use		
Slip Resistance ^(Note 1)	N.D.	Values > 40 are considered safe
Abrasion Resistance ^(Note 1)	N.D.	Values <23.0 are considered suitable for use in heavily trafficked areas
Strength under load		
1) Compression ^(Note 2)	55.0 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	N.D.	Loaded perpendicular to the bedding plane ambient humidity
	N.D.	Loaded parallel to the bedding plane ambient humidity

Porosity and Water Absorption		
1) Porosity ^(Note 3)	11.1%	
2) Saturation Coefficient ^(Note 3)	0.85	
3) Water Absorption	3.95% (by wt)	
4) Bulk specific gravity	2409kg/m ³	
Resistance to Frost		
Freeze/Thaw Test ^(Note 1)	N.D.	
Resistance to Salt		
Sodium Sulphate Crystallisation Test ^(Note 3)	17.19% 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