



Golconda
Dolomitic
Limestone

Technical Data Sheet

Golconda Dolomitic Limestone

Hopton Wood Stone Sales Ltd
Bone Mill, Ryder Point, Matlock, Derbyshire
Contact : Hopton Wood Stone Sales Ltd
Tel. 01629 822 216 Fax. 01629 824 348
email: info@lowesmarble.com
website www.lowesmarble.com
Grid Reference: SK – –
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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 March 2000 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 Hopton Wood Stone Sales Ltd and does not represent an endorsement of the stone by BRE.

General

The quarry is at Bone Mill near Matlock. The stone is used for walling, architectural details, paving and flooring. The depth on bed is around 700mm. The maximum size quarried is 2000 x 600 x 700mm. There are very large reserves of the stone

Petrography

Golconda is of Carboniferous age. The stone is usually cream or 'gold'.

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 this area is traditionally used as architectural details (for example columns) and paving. The crystallisation test results show the stone to be Class A which BRE Report 141 suggest is suitable for most uses and that it should have good resistance to both salt and frost. Based on current research it seems likely that the stone would weather at a rate of between 1 and 2 mm per 100 years but it could be greater in severe exposures or on the edges of stonework. The strength is at the top end of the range for limestones.

Test Results – Golconda Dolomitic Limestone

Safety in Use		
Slip Resistance ^(Note 1)	60	Values > 40 are considered safe. Note: Polished surfaces are usually around 15-20 when wet.
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)	123.8 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	10.0 MPa	Loaded perpendicular to the bedding plane ambient humidity
	12.0 MPa	Loaded parallel to the bedding plane ambient humidity

Porosity and Water Absorption		
1) Porosity ^(Note 3)	11.5%	
2) Saturation Coefficient ^(Note 3)	0.63	
3) Water Absorption	2.90% (by wt)	
4) Bulk specific gravity	2518kg/m ³	
Resistance to Frost		
Freeze/Thaw Test ^(Note 1)	N.D.	
Resistance to Salt		
Sodium Sulphate Crystallisation Test ^(Note 3)	-0.52% 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