Mountcharles Sandstone

Technical Data Sheet
Mountcharles sandstone
Artclogh Quarry, Ireland
Larceybrack Quarry, Glencolumbkille, Co. Donegal, Eire
Contact : McMonicle & Sons
Tel. 00353 073 35061 Fax. 00353 073 35408
Grid Reference : —- —-
Compiled May 2000

This data sheet was compiled by the Building Research Establishment (BRE). It is based on data from current tests 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 McMonicle & Sons and does not represent an endorsement of the stone by BRE.

General

The Mountcharles sandstone is extracted from outcrops approximately 3 – 4 m high. The random block overburden is used for garden walling etc.. Block sizes are of the order of 1 x 3 x 1 m (1m on bed). There are good reserves of material.

Petrography

Mountcharles is a yellow /buff coloured with some iron staining.

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 and abroad. Mountcharles sandstone appears to be a durable stone but will have limited resistance to acid rain. The negligible weight loss in the sodium sulphate crystallisation test indicates high resistance to salt damage (for example in coastal locations or from de-icing salts). The flexural strength is high. From the frost test the stone should have good frost resistance. The slip value is comparable to many sandstones.

Overall, Mountcharles sandstone should be suitable for use in many aspects of construction including flooring, paving, load bearing masonry and cladding. Special consideration is required for areas where a long service life is needed in acidic conditions.

Test Results – Mountcharles Sandstone

Safety in Use		
Slip Resistance (Note 1)	69	Wet. 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)	Not tested	Loaded perpendicular to the bedding plane ambient humidity
2) Bending (Note 1)	19.7 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)	9.5%	
2) Saturation Coefficient (Note 3)	0.74	
3) Water Absorption	2.9% (by wt)	
4) Bulk specific gravity	2388kg/m^3	
Resistance to Frost		
Flexural strength after Freeze/Thaw Test (Note 1)	18.9 MPa	Loaded perpendicular to the bedding plane ambient humidity
Resistance to Salt		
Sodium Sulphate Crystallisation Test (Note 3)	-0.98% Mean wt loss	
Resistance to Acidity		

Acid Immersion Test(Note 4)	Fail	

(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