

Technical Data Sheet

Birchover Gritstone

General

The quarry is just to the north of Birchover between Stanton-in-Peak and Birchover village. It has been worked for more than 150 years and has good reserves of stone.

Petrography

Birchover Gritstone is from the Millstone Grit of Carboniferous age. Stone from the quarry is medium- to coarse-grained and is pink to buff in colour. There is little overburden on top of the 40m face. Large blocks are available and it is generally supplied at depths of 1.5m on bed.

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. Sandstones from the Millstone Grit series are traditionally acknowledged as generally being a very durable building and paving stone and have been used extensively in many towns and cities in the UK. Birchover sandstone appears to be a durable stone that is not effected by acid rain or air pollution. The weight lost in the harsh saturated sodium sulphate crystallisation test indicates limited resistance to salt damage in very severe environments (for example in coastal locations or from de-icing salts); the results suggest that the stone would have good frost resistance. The compressive strength and flexural strength of the stone are typical of the range for sandstone. The abrasion resistance is comparable with York paving stones and should be suitable for use in heavily trafficked areas.

Overall, should be suitable for use in most aspects of construction including flooring, paving, load bearing masonry and cladding.

Test Results - Birchover Gritstone

Safety in Use		
Slip Resistance ^(Note 1)	wet: 75	Values > 40 are considered safe.
Abrasion Resistance ^(Note 1)	22.1	Values <23.0 are considered suitable for use in heavily trafficked areas
Strength under load		
1) Compression ^(Note 2)	73.6 MPa	Loaded perpendicular to the bedding plane ambient humidity
2) Bending ^(Note 1)	8.9 MPa	Loaded perpendicular to the bedding plane ambient humidity
Porosity and Water Absorption		

1) Porosity ^(Note 3)	13.1 - 15.3%	
2) Saturation Coefficient ^(Note 3)	0.63 - 0.65	
3) Water Absorption (at atmospheric pressure)	3.6 % (by wt)	
4) Bulk specific gravity	2296kg/m ³	
Resistance to Frost		
Freeze/Thaw Test ^(Note 1)	Not Determined	
Resistance to Salt		
Sodium Sulphate Crystallisation Test ^(Note 14) (saturated)	Mean: 100% (cubes failed) (wt loss)	
Resistance to Acidity		
Acid Immersion Test ^(Note 4)	Pass	All samples passed the test with no splitting or delamination

(Test methods Note 1 = prEN1341, Note 2 = prEN 1342, Note 3 = prEN 1341 /BRE 141, Note 4 = BRE 141)