

ROCK TESTING REQUIREMENTS						
Test Type	Accredited	Diameter		Length		Notes
		min	max	min	max <sup>1</sup>	
		mm	mm	mm	mm	
Point Load <sup>2</sup>	Yes	38	102	1 x D	N/A	
Porosity by Saturation and Buoyancy <sup>3</sup>	Yes	N/A	N/A	N/A	N/A	Sample must be 10 pieces of at least 50 g each.
UCS	Yes	55	102	2 x D	N/A	Non standard option available. <sup>4</sup>
UCS with Young's Modulus	Yes	55	102	2 x D	N/A	Strain gauges need to be superglued to the specimen for accredited tests. Non standard option available. <sup>5</sup>
UCS with Poisson's Ratio	Yes	55	102	2 x D	N/A	See above. No non standard option available. <sup>5</sup>
Direct Shear <sup>6</sup>	No	55	102	100	N/A	Min of 50 mm both sides of discontinuity is needed to cast specimen in plaster prior to test
Rock Triaxial in Hoek Cell <sup>7</sup>	No	38	55	2 x D	N/A	Test can be performed with 38 mm or 55 mm samples only.
Indirect Tensile Strength	No	70	102	100	N/A	If test specimen isn't 55mm diameter, it must be re-cored. Minimum size for re-coring is 70 mm. <sup>8</sup>
Sound Velocity (P&S wave)	Yes	40	N/A <sup>9</sup>	100	N/A	May be performed on specimens up to UCS size <sup>10</sup>
CERCHAR Abrasivity	No	40	N/A	40	N/A	5 scratches at 5 mm intervals. <sup>11</sup>
Slake Durability	Yes	N/A	N/A	N/A	N/A	Sample must be 10 pieces of 40 g to 60 g each.

NB All testing equipment in our lab has a maximum capacity of 102 mm, anything larger than this will need to be re-cored. This is not part of any of our test processes, so will be charged as a separate item. We will generally re-core to 55 mm diameter only.

1. Maximum length is generally not relevant, as samples can be cut to the required length.
2. Point loads are generally performed as two breaks, unless requested otherwise. Further breaks will be charged individually.
3. Samples for porosity must be able to stay intact when immersed and saturated under vacuum. If it's mudstone, shale, soft sandstone or similar, it is unsuitable. Linear density and particle density can be done instead.
4. For all types of UCS, standard tests require the specimen to be straight to within 0.50mm along its length. If this is not the case, it cannot be rectified, so 'non-standard' is the only option available.
5. When strain gauges need to be glued to specimens, the material must be such that the gauges will stick to it. Therefore, our standard method is unsuitable for mudstones, coarse grained sandstones and other 'dirty' materials. We offer an option for obtaining Young's modulus by measuring axial deformation using a linear travel transducer, but Poisson's ratio is not possible.
6. Direct shears can be performed on existing discontinuities or on saw cut faces. In either case, the specimen must have material from both sides of the shear plane. The schedule must also specify at least 3 pressures.
7. We are unable to perform multi stage triaxial tests, due to the sensitivity of our setup. Three pressures require 3 samples.
8. Indirect Tensile Strength has a purpose-made testing jig for 55 (+/-2mm) diameter samples only. To re-core to this size, original samples must have a minimum diameter of at least 70mm.
9. It is possible to perform this test on specimens with diameters greater than 102mm.
10. Specimen lengths of about 30-50mm are preferred, but the test may be performed on UCS samples. Certain materials, such as mudstones, may not give useable results. Values obtained may be used to calculate elastic modulus, but only if the specimen is shown to be isotropic.
11. Generally performed on freshly fractured surfaces. Direction of scratch relative to core axis can be specified.

