

Engineering and Puddle Clays



The Wingmoor Farm Quarry at Bishops Cleeve near Cheltenham produces high quality clay suitable for a wide range of engineering purposes. This clay is from the Lower Lias geological series which are extensive and dominant in the Vale of Gloucester. From reserve studies and borehole logs the deposits at the site are described as “thick, stiff blue clay”; “firm grey clay” and “blue laminated clay”. These clays form part of a repetitive sequence of silty mudstones, limestones and grey calcareous mudstones which make up the Lower Lias Stratigraphy.

This puddle or engineering clay is sold ex-site at a competitive rate for a wide range of uses:

Engineering Clay – high performance and re-worked material, used for:

- Flood defence works
- Engineering of landfill and waste sites
- Civil engineering works
- Pond, lake and reservoir linings
- Agricultural settlement ponds

Infill Restoration Clay – carefully balanced permeability, inert and clean for:

- Backfilling remedial works
- Site restoration.

The detailed data sheet overleaf details the specific characteristics of the clay.

Please contact us to discuss your particular requirements. We can also advise on laying methods, together with suitable contractors who can construct and engineer your projects.



www.grundon.com

For further information, please contact:

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Description:	A soft to firm, fissured dark blue to grey silty CLAY with occasional fossil fragments. Material is suitable for landfill engineering and satisfies requirements for General Cohesive Fill (Classes 2A, 2B and 2D) of the Specification for Highway Works.				
Summary Data: Samples taken from <i>in situ</i> material and clay reworked in landfill engineering between 2000 and 2007	Characteristic	Test	Typical values		
	Particle size (20No. samples)	BS 1377: Part 2: Clause 9: 1990	Particle size	% passing	
			3.35mm	97-100	
			2mm	79-100	
			600µm	79-99	
			212µm	78-99	
			63µm	77-98	
			20µm	56-93	
			6µm	32-73	
	2µm	19-56			
Clay Content	19-56%				
Atterburg limits	BS 1377: Part 2: Clauses 4 & 5: 1990	Liquid Limit w_L (%)	Plastic Limit w_P (%)	Plasticity Index I_P	
		43 - 52	18 - 26	20 - 32	
Particle density	BS 1377: Part 2: Clause 8: 1990	ρ_s (Mg/m³)			
		2.63 - 2.76			
As dug moisture content	BS 1377: Part 2: Clause 3: 1990	w (%)			
		12 - 26			
Compaction testing (2.5kg rammer)	BS 1377: Part 4: Clause 3: 1990	Maximum dry density (Mg/m³)	Optimum moisture content (%)		
		1.67 - 1.79	13 - 19		
Undrained shear strength	BS 1377: Part 7: Clause 8: 1990	kPa			
		90 - 168			
Permeability (triaxial cell method)	BS 1377: Part 6: Clause 6: 1990	Dry density (Mg/m³)	Initial moisture content (%)	Permeability (m/s)	
		1.54 to 1.83	16.8 to 24.8	1.2x10 ⁻¹⁰ to 1.8x10 ⁻¹¹	

The above summary is representative of the character and performance of the clays excavated and used on site in landfill engineering works at Wingmoor Farm between 2000 and 2007.

All sampling and analysis was carried out by third party independent consultants and laboratories.

The information is provided for guidance only. It should not be relied upon as confirmation of source quality data in lieu of conformance testing for specific applications. Customers should arrange for such further testing as appropriate.

Individual sample test results and/or certificates can be made available on request.