

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p>Accredited to ISO/IEC 17025:2005</p>	<b>Costain Ltd</b>	
	<b>Issue No:</b> 028	<b>Issue date:</b> 28 November 2011
	<b>Geotechnical &amp; Materials Laboratory</b> <b>Unit 10</b> <b>Wessex Road</b> <b>Bourne End</b> <b>SL8 5DT</b>	<b>Contact: Mr P J Parsons</b> <b>Tel: +44 (0)1628 648048</b> <b>Fax: +44 (0)1628 648049</b> <b>E-Mail: phil.parsons@costain.com</b> <b>Website: www.costain.com</b>
<b>Testing performed by the Organisation at the locations specified below</b>		

### Locations covered by the organisation and their relevant activities

Laboratory locations: Location details		Activity	Location code
<b>Address</b> Geotechnical & Materials Laboratory Unit 10 Wessex Road Bourne End SL8 5DT	<b>Local contact</b> Bhavika Ramrakhyani  Tel: +44 (0)1628 648045 +44 (0)7799 435926	AGGREGATES: Mechanical Tests; Physical Tests CONCRETE - fresh: Physical Tests CONCRETE - hardened: Mechanical Tests; Physical Tests SOILS AND STABILISED MATERIALS: Mechanical Tests; Physical Tests	SL8
<b>Address</b> Unit D7 Commercial Ave Cheadle Hulme Cheadle SK8 6QH	<b>Local contact</b> Mr N Busby  Tel: +44 (0)161 485 6860 +44 (0)7799 435830	AGGREGATES: Physical tests CONCRETE - hardened: Mechanical Tests; Physical Tests BITUMINOUS MIXTURES: Physical tests SOILS AND STABILISED MATERIALS: Mechanical Tests; Physical Tests	SK8
<b>Address</b> Site Offices Hoyle Road Peacehaven East Sussex BN10 8LW	<b>Local contact</b> Mr Q Ahmed  Tel: +44 (0)7799435564	CONCRETE - hardened: Mechanical Tests; Physical Tests SOILS AND STABILISED MATERIALS: Physical Tests	BN10

### Site activities performed away from the locations listed above:

All locations suitable for the activities listed	<b>Contact</b> (Bourne End Laboratory) Bhavika Ramrakhyani Tel: +44 (0)1628 648045 +44 (0)7799 435926  (Cheadle Laboratory) Mr N Busby Tel: +44 (0)161 485 6860 +44 (0)7799 435830	AGGREGATES: Sampling CONCRETE - fresh: Physical Tests; Sampling CONCRETE - hardened: Sampling CONCRETE - structures & reinforcement: Non-destructive tests BITUMINOUS MIXTURES: Sampling ROAD PAVEMENT SURFACES: Sampling, Physical tests SOILS AND STABILISED MATERIALS: Sampling; Physical Tests	Site
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DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
AGGREGATES	Sampling coarse, fine and all-in aggregates - from heaps	BS 812-102:1989	Site
	Sampling stockpiles of fine aggregates by hand	BS EN 932-1:1997	Site
	Sampling stockpiles of coarse aggregates by hand	BS EN 932-1:1997	Site
	Particle size distribution - washing and sieving	BS 812-103 Section 103.1: 1985	SL8
	Particle size distribution - dry sieving	BS 812-103 Section 103.1: 1985	SL8
	Flakiness index	BS 812-105 Section 105.1: 1989	SL8
	Moisture content - oven drying method	BS 812-109:1990	SL8
	Ten per cent fines value - dry - particle size 10mm and greater (loads from 100 to 2000 kN)	BS 812-111:1990	SL8
	Ten per cent fines value - soaked - particle size 10mm and greater (loads from 100 to 2000 kN)	BS 812-111:1990	SL8
	Particle size distribution - sieving method	BS EN 933-1:1997	SL8 SK8
	Flakiness index	BS EN 933-1:1997	SL8 SK8
	Resistance to fragmentation by the Los Angeles test method	BS EN 1097-2:1998	SL8
	Water content	BS EN 1097-5:1999	SL8 SK8
Uniformity coefficient (221 2217)	BS 6100:Subsection 2.2.1: 1990	SL8 SK8	



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BITUMINOUS MIXTURES for roads and other paved areas	Sampling from - around the augers of the paver	BS EN 12697-27:2001	Site
	Sampling from workable material in heaps	BS EN 12697-27:2001	Site
	Sampling of finished material - core cutting method	BS EN 12697-27:2001	Site
	Temperature of Bituminous Mixtures - in laid material	BS EN 12697-13:2000	Site
	Temperature of Bituminous Mixtures - in the hopper of a paver	BS 598:Part 109:1990	Site
	Aggregate grading	BS EN 12697-2:2002	SK8
	Maximum density - volumetric procedure	BS EN 12697-5:2002	SK8
	Bulk density - dry - sealed specimen (wax) - saturated surface dry (SSD)	BS EN 12697-6:2003	SK8
	Air voids content	BS EN 12697-8:2003	SK8
	Conventional refusal density - vibratory compaction	BS EN 12697-9:2002	SK8
	Percentage refusal density (PRD)	BS EN 12697-9:2002	SK8
	Laboratory compaction of bituminous mixtures by vibratory compaction	BS EN 12697-32:2003	SK8
Binder content by ignition	BS EN 12697-39:2004	SK8	
BITUMINOUS ROAD SURFACING	In-situ density - nuclear method	BS 594987:2007 and Documented In-House Method: SP-INS-035-1, 01/04/2010	Site
	In-situ density - dielectric method	BS 594987:2010 and Documented In-House Method: SP_INS_037, July 2011	Site



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ROAD PAVEMENT SURFACES	Core Logging	Design Manual for Roads and Bridges, HMSO, May 1999, HD 30/99 Annex A and Documented In-House Method: SP-LAB-065-1, 14/04/2010	SK8
	Pavement surface macrotexture depth using a volumetric patch technique	BS EN 13036-1:2002	Site
	Texture depth - by the sand-patch method	BS 598:Part 105:2000	Site
	Surface regularity using a rolling straight-edge	Specification for Highway Works HMSO August 1986 Clause 702 TRRL Supplementary Report 290:1977	Site
CONCRETE - fresh	Sampling fresh concrete on site	BS 1881-101:1983	Site
	Sampling from initial discharge (slump test)	BS 1881-102:1983	Site
	Slump	BS 1881-102:1983	Site
	Air content - method B	BS 1881-106:1983	Site
	Making test cubes in the laboratory	BS 1881-108:1983	SL8
	Sampling fresh concrete on site - spot sample - composite sample	BS EN 12350-1:2000 BS EN 12350-1:2009	Site
	Slump	BS EN 12350-2:2000 BS EN 12350-2:2009	Site
	Air content - pressure gauge method	BS EN 12350-7:2000 BS EN 12350-7:2009	Site
	Making cubic specimens for strength tests	BS EN 12390-2:2000 BS EN 12390-2:2009	Site SL8 SK8



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CONCRETE - fresh (cont'd)	Curing cubic specimens for strength tests	BS EN 12390-2:2000 BS EN 12390-2:2009	SL8 SK8 BN10
	Manufacture of concrete cylinders	BS EN 12390-2: 2009	SL8 BN10 Site
	Temperature of fresh concrete	Documented In-House Method No SP-LAB-058-1, 04/03/09	Site
CONCRETE - hardened	Density	BS 1881-114:1983	SL8
	Compressive strength of cubes - including curing (loads from 100 to 2000kN)	BS 1881-116:1983 BS 1881-111:1983	SL8
	Compressive strength of cubes - including curing (loads from 100 to 2000kN)	BS EN 12390-3:2002 BS EN 12390-3:2009 BS EN 12390-2:2000 BS EN 12390-2:2009	SL8 SK8 BN10
	Density	BS EN 12390-7:2000 BS EN 12390-7:2009	SL8 SK8 BN10
	Taking cored specimens	BS EN 12504-1:2009	Site
	Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders (strengths from 10 to 50 MPa)	ASTM C 1231/C 1231M - 07 ASTM C 39/C 39M - 05	SL8 BN10
	Cored specimens - examining and testing in compression (loads from 100 to 2000 kN)	BS EN 12504-1:2009	BN10
	Concrete - reinforced	Location of reinforcement	BS 1881-204:1988
SOILS for civil engineering purposes	Moisture content - oven drying method	BS 1377-2:1990	SL8 BN10 SK8
	Saturation moisture content of chalk	BS 1377-2:1990	SL8 BN10



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SOILS for civil engineering purposes (cont'd)	Liquid limit - cone penetrometer	BS 1377-2:1990	SL8 SK8
	Plastic limit	BS 1377-2:1990	SL8 SK8
	Plasticity index and liquidity index	BS 1377-2:1990	SL8 SK8
	Density - immersion in water	BS 1377-2:1990	SL8 BN10
	Particle density - small pyknometer	BS 1377-2:1990	SL8
	Particle size distribution - wet sieving	BS 1377-2:1990	SL8 SK8
	Particle size distribution - dry sieving	BS 1377-2:1990	SL8 SK8
	Particle size distribution - sedimentation - pipette method	BS 1377-2:1990	SL8
	Dry density/moisture content relationship (2.5 kg rammer)	BS 1377-4:1990	SL8 SK8
	Dry density/moisture content relationship (4.5 kg rammer)	BS 1377-4:1990	SL8 SK8
	Dry density/moisture content relationship (vibrating hammer)	BS 1377-4:1990	SL8 SK8
	Moisture condition value (MCV)	BS 1377-4:1990	SL8 SK8
	MCV - natural moisture content	BS 1377-4:1990	SL8 SK8
	MCV/moisture content relation	BS 1377-4:1990	SL8 SK8
	Chalk crushing value (CCV)	BS 1377-4:1990	SL8
California Bearing Ratio (CBR) (loads from 1.2 to 30kN)	BS 1377-4:1990	SL8 SK8	



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SOILS for civil engineering purposes (cont'd)	One-dimensional consolidation properties	BS 1377-5:1990	SL8
	Undrained shear strength - triaxial compression without measurement of pore pressure (loads from 0.2 to 12kN)	BS 1377-7:1990	SL8
	Undrained shear strength - triaxial compression with multistage loading and without measurement of pore pressure (loads from 0.2 to 12kN)	BS 1377-7:1990	SL8
	Uniformity coefficient (221 2217)	BS 6100:Subsection 2.2.1: 1990	SL8
	In-situ bulk density - nuclear method by direct transmission - compliance tests	BS 1377-9:1990	Site
	In situ DCP Index Using the TRRL dynamic cone penetrometer	Documented In-House Method No LPM 16.063/2, 15/11/2004	Site
	In-situ moisture density - nuclear method by direct transmission - compliance tests	BS 1377-9:1990	Site
	Apparent resistivity	BS 1377-9:1990	Site
	Sampling earthworks materials - from stockpiles	Documented In-House Method No LPM 16020	Site
	In situ California Bearing Ratio (loads from 1.2 to 30kN)	BS 1377-9:1990	Site
	In situ density - by sand replacement method - (large pouring cylinder)	BS 1377-9:1990	Site
In situ density - by core cutter method	BS 1377-9:1990	Site	



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SOILS for civil engineering purposes (cont'd)	Vertical deformation and strength characteristics of soil by the plate loading test <i>(loads from 2.0 to 200 kN)</i>	BS 1377-9:1990	Site
	Equivalent CBR by plate bearing test <i>(loads from 5.0 to 250 kN)</i>	Design Manual for Roads and Bridges: Volume 7: Pavement design and Maintenance - Foundation IAN 73/06	Site
STABILISED MATERIALS for civil engineering purposes - cement stabilised and lime stabilised materials	Compressive strength of cubic specimens <i>(loads from 100 to 2000kN)</i>	BS 1924-2:1990	SL8 SK8
	Manufacture of coarse grained cement bound materials: Cube specimens	BS 1924-2:1990	SL8 SK8
	Curing of coarse grained cement bound materials: Cube specimens	BS 1924-2:1990	SL8 SK8
	In-situ bulk density - nuclear method by direct transmission - compliance tests	BS 1924-2:1990	Site
	In-situ moisture density - nuclear method by direct transmission - compliance tests	BS 1924-2:1990	Site
	Sampling, manufacture, storage and curing of coarse grained cement bound materials: Cube specimens	BS 1924-2:1990	Site
	In situ density of soils - dielectric method	Documented In-House Method: SP_INS_039, August 2011	Site
<b>END</b>			