

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p>Accredited to ISO/IEC 17025: 2005</p>	Element Materials Technology ME Limited Abu Dhabi	
	Issue No: 046 Issue date: 23 November 2018	
PO Box 9191 Abu Dhabi United Arab Emirates	Contact: Mr. N. Hold Tel: +971-2-5582345 Fax: +971-2-5584515 E-Mail: info.abudhabi@element.com Website: www.element.com	
Testing performed by the Organisation at the locations specified below		

Element Materials Technology ME Limited Abu Dhabi is accredited for a flexible scope that enables them to establish site laboratories to conduct the activities detailed below under Construction Materials Testing and Site Sampling, in accordance with their documented in-house procedure: SLP 4.16

Current locations covered by the scope of accreditation:

Location details	Activity	Location code
<p>Location Address Element Materials Technology ME Limited Abu Dhabi Plot 25 Old Airport Road Umm Al Naar (Sas Al Nakhl) Abu Dhabi United Arab Emirates</p> <p>Local contact Mr. N. Hold Tel: +971-2-5582345 Fax: +971-2-5584515 E-Mail: info.abudhabi@element.com middle.east@exova.com</p> <p>Postal Address Element Materials Technology ME Limited Abu Dhabi PO Box 9191 Abu Dhabi United Arab Emirates</p>	Metals & Weldments - Chemical tests Metals & Weldments - Corrosion tests Metals & Weldments - Mechanical tests Metals & Weldments - Metallurgical tests	A
<p>Location Address Element Materials Technology ME Limited Abu Dhabi Reem Island Laboratory Reem Island Abu Dhabi United Arab Emirates</p> <p>Local contact Mr S Kumar Tel: + 971 2 5582345 Fax: +971-2-5581034 E-Mail: info.abudhabi@element.com</p>	Aggregates – Physical & Mechanical tests Bituminous Mixtures - Physical & Mechanical tests Fresh Concrete - Sampling, & Physical tests Hardened Concrete - Physical & Mechanical tests Soils - Physical & Mechanical tests	D



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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
Construction Materials Testing			
AGGREGATES	Particle density and water absorption for aggregate 10mm nominal size and smaller	BS 812:Part 2:1995	D
	Particle density and water absorption for aggregate all larger than 10mm	BS 812:Part 2:1995	D
	Particle density and water absorption for aggregate between 40mm and 5mm	BS 812:Part 2:1995	D
	Particle size distribution - washing and sieving	BS 812:Part 103 Section 103-1: 1985	D
	Particle size distribution - dry sieving	BS 812:Part 103 Section 103-1: 1985	D
	Flakiness index	BS 812:Part 105:Section 105.1: 1989	D
	Elongation index	BS 812:Part 105:Section 105.2: 1990	D
	Moisture content - oven dry method	BS 812:Part 109:1990	D
	Aggregate crushing value - particle size 10mm and greater <i>(Forces from 30 to 3000kN)</i>	BS 812:Part 110:1990	D
	Ten per cent fines value - dry - particle size 10mm and greater <i>(Forces from 30 to 3000kN)</i>	BS 812:Part 111:1990	D
Aggregate impact value - dry	BS 812:Part 112:1990	D	



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
AGGREGATES (cont'd)	Acid soluble chloride salt content	BS 812:Part 117:1988 (App C)	D
	Total sulphate content by acid extraction	BS 812:Part 118:1988	D
	Materials finer than 75µm (No 200) in mineral aggregates by washing	ASTM C117-17	D
	Specific gravity and absorption of coarse aggregates	ASTM C127-15	D
	Specific gravity and absorption of fine aggregates	ASTM C128-15	D
	Resistance to degradation of small-size coarse aggregate by abrasion and impact in the Los Angeles Machine	ASTM C131-14	D
	Sieve analysis of fine and coarse aggregates	ASTM C136-14	D
	Clay lumps and friable particles in aggregates	ASTM C142-17	D
	Resistance to degradation of large-size coarse aggregate by abrasion and impact in the Los Angeles Machine	ASTM C535-16	D
Total evaporable moisture content by drying	ASTM C566-13	D	
BITUMINOUS MIXTURES for roads and other paved areas	Bulk specific gravity and density of compacted bituminous mixtures	ASTM D2726-17	D
	Thickness of compacted bituminous paving mixture specimens	ASTM D3549-11	D



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BITUMINOUS MIXTURES for roads and other paved areas (cont'd)	Mechanical size analysis of extracted aggregates	ASTM D5444-15	D
	Asphalt content of hot-mix asphalt by ignition method	ASTM D6307-16	D
	Preparation of bituminous specimens using Marshall apparatus	ASTM D6926-16	D
	Marshall stability and flow (Forces from 2.5 to 50 kN)	ASTM D6927-15	D
CONCRETE - hardened	Density	BS 1881:Part 114:1983 (withdrawn)	D
	Compressive strength of cubes - including curing (Forces from 30 to 3000 kN)	BS 1881:Part 116:1983 (withdrawn) BS 1881:Part 111:1983 (withdrawn)	D
	Water absorption	BS 1881:Part 122:2011	D
	Shape and dimension of specimens	BS EN 12390-1: 2012	D
	Compressive strength of cubes - including curing (Forces from 30 to 3000 kN)	BS EN 12390-2: 2009 BS EN 12390-3: 2009	D
	Density	BS EN 12390-7: 2009	D
	Compressive strength of cores (Forces from 60 to 3000kN)	BS EN 12504-1:2009	D
	Rapid chloride permeability	ASTM C1202-17	D
	Absorption of water by immersion	RILEM CPC 11.1:1982 2 nd Edition	D
	Water permeability	DIN 1048:Part 5:June 1991	D
	Acid soluble chloride salt content	BS1881:Part 124: Clause 12.1:2015	D
	Total sulphate content by acid extraction	BS1881:Part 124: Clause 12.2 2015	D



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SOILS for civil engineering purposes	Moisture content - oven drying method	BS 1377:Part 2:1990	D
	Particle size distribution - wet sieving	BS 1377:Part 2:1990	D
	Particle size distribution - dry sieving	BS 1377:Part 2:1990	D
	Dry density/moisture content relationship (4.5 kg rammer)	BS 1377:Part 4:1990	D
	CBR (California Bearing Ratio) of laboratory-compacted soils (Forces from 2 to 40kN)	BS 1377:Part 4:1990	D
	Laboratory compaction characteristics of soil using modified effort	ASTM D1557-12e1	D
	CBR (California Bearing Ratio) of laboratory-compacted soils (Forces from 2 to 40kN)	ASTM D1883-16	D
	Water (moisture) content	ASTM D2216-10	D
	Acid soluble chloride salt content	BS 1377 Part 3:1990	D
	Total sulphate content by acid extraction	BS 1377 Part 3:1990	D
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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Metallurgical, Mechanical, Corrosion and Associated Chemical Testing			
Plain carbon, low alloy and stainless steels	Elemental Analysis	Documented In-House Method EX-M-OP-CH-AUH-MD101 using Direct Reading Optical Emission Spectrometry techniques	A
Low alloy and stainless steels	Elemental Analysis	Documented In-House Method EX-M-OP-CH-AUH-MD107 using ICP-Optical Emission Spectrometry techniques	A
Low Alloy Carbon Steel and Stainless Steel	Chemical Analysis	Documented In-House Method EX-M-OP-CH-AUH-MD101- Chemical analysis by optical Emission Spectrometry (ARL 3460 Optical Emission Spectrometer)	A
Nickel alloys	Elemental Analysis	Documented In-House Method EX-M-OP-CH-AUH-MD110 using ICP-Optical Emission Spectrometry techniques	A
	Chemical Analysis	Documented In-House Method EX-M-OP-CH-AUH-MD101- Chemical analysis by optical Emission Spectrometry (ARL 3460 Optical Emission Spectrometer)	A
Aluminium alloys	Chemical Analysis	Documented In-House Method EX-M-OP-CH-AUH-MD101- Chemical analysis by optical Emission Spectrometry (ARL 3460 Optical Emission Spectrometer)	A



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Plain carbon, low alloy and stainless steels	Carbon and Sulphur content	Documented In-House Method EX-M-OP-CH-AUH-MD129 using IR-combustion techniques	A
	Nitrogen content	Documented In-House Method EX-M-OP-CH-AUH-MD128 using IR-combustion techniques	A
Austenitic stainless steels and wrought, nickel rich, chromium bearing alloys	<u>Corrosion Tests</u>		
	Susceptibility to intergranular attack	ASTM G28-02 (2015) Method A ASTM A262-15 Practices A, B, C & E	A
	Pitting resistance	ASTM G48-11(2015) Methods A, C & E	A
Iron, Steels and Ferrous Metals	Sulphide Stress Cracking (SSC)	NACE TM0177:2016 ASTM G39-99 (2016) EFC 16:2009 3 rd Edition EX-M-OP-CO-MD009 Issue 3	A
	Suseptability to cracking of line pipe steels in sour service (Full Ring Ovalisation test) Excluding NDT	HSE OTI 95 635 (1996)	A
	Hydrogen induced cracking (HIC)	NACE TM0284-16 Documented In-house Method EX-M-OP-CO-MD007 Issue 3	A
Iron, steels and other ferrous metals	<u>Mechanical Tests</u>		
	Bend	BS EN ISO 7438:2016	A
	Brinell (HB1/30)	BS EN ISO 6506-1:2014 ASTM E10-17	A
	Rockwell (B and C Scales)	BS EN ISO 6508-1:2016 ASTM E18-17	A
	Vickers (10)	BS EN ISO 6507-1:2005 ASTM E92-16	A



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Iron, steels and other ferrous metals (cont'd)	Charpy impact including Expansion and Shear (temperature range: -196°C and -60°C to ambient)	BS EN ISO 148-1:2016 ASTM E23-16b ASTM A370-17	A
	Fracture toughness CTOD (temperature range: -196°C and -60°C to ambient)	BS 7448-1:1991	A
	Tensile at ambient temperature (forces up to 2000 kN)	BS EN ISO 6892-1:2016 ASTM E8/E8M-16a ASTM A370-17 API 5L 45 th Edition 2013	A
	Phase volume fraction	ASTM E562-11	A
	Determination of ferrite content using Fischer Feritscope MP30	Documented In-House Method EX-M-OP-MET-MD Issue 3 (01/03/16)	A
	Grain Size (by comparison)	ASTM E112-13	A
Carbon steel bars for the reinforcement of concrete	Bend	BS 4449:1988 (withdrawn) ASTM A615/A615M-16	A
	Rebend	BS 4449:1997 (withdrawn) BS 4449:2005+A3:2016 BS EN ISO 15630-1:2002 (withdrawn); BS EN ISO 15630-1:2010	A
	Tensile	BS 4449:1997 (withdrawn) BS 4449:2005+A3:2016 BS EN ISO 15630-1:2002 (withdrawn); BS EN ISO 15630-1:2010 ASTM A615/A615M-16	A
	Fatigue	BS 4449:1997 Amd't1 (withdrawn) BS 4449:2005+A2:2009 BS EN ISO 15630-1:2002 (withdrawn); BS EN ISO 15630-1:2010 BS 6744:2001+A3 2016	A



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Carbon steel bars for the reinforcement of concrete (cont'd)	Projected Rib Area (Geometry)	BS 4449:1997 Amd't1 (withdrawn) BS 4449:2005+A3:2016 BS EN ISO 15630-1:2002 (withdrawn); BS EN ISO 15630-1:2010	A
Manhole tops	Loading (up to 1000 kN)	BS EN 124:2015 BS EN 1433:2002	A
Weldments	Bend, Fillet weld fracture and Nick Break, Hardness, Impact, Tensile, Macro and Microstructure and CTOD testing in accordance with specific welding codes	BS EN ISO 5173:2010 + A1:2011 BS EN ISO 9017:2013 BS EN ISO 9015-1:2011 BS EN ISO 9016:2012 BS EN ISO 4136:2012 BS EN ISO 5178:2011 BS EN ISO 17639:2013 BS 4515-1:2009 BS 4515-2:1999 BS EN ISO 15614-1:2004 + A2:2012 BS EN ISO 15614-2 :2005 BS EN 287:Part1:2011 BS EN ISO 9606-1:2013 BS EN ISO 9606-2:2004 ASME IX-15 API 1104 21 st Edition 2013 Addendum 2:2015 AWS D1.1/D1.1M-2015 BS 7448:Part 2:1997 (withdrawn) BS EN ISO 15653:2010	A

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Site Sampling and Testing			
AGGREGATES	Sampling coarse, fine and all-in aggregates - from heaps - from a lorry-load - from laid material	BS 812:Part 102:1989	D
CONCRETE- fresh	Sampling fresh concrete on site	BS 1881:Part 101:1983 ASTM C172/C172M-14a	D
	Sampling from initial discharge (slump test)	BS 1881:Part 102:1983	D
	Slump	BS 1881:Part 102:1983 ASTM C143/C143M-15a	D
	Sampling fresh concrete on site	BS EN 12350-1: 2009	D
	Slump	BS EN 12350-2: 2009	D
	Temperature	ASTM C1064/C1064M-12 BS 5328: Part 4: 1990	D
CONCRETE - hardened	Cored Specimens - taking	BS EN 12504-1:2009	D
	Sampling of concrete by dust drilling	Documented In-House EX-M-OP-CMT-AUH-MD001	D
CONCRETE - reinforced	Location of reinforcement	BS 1881:Part 204:1988	D
SOILS for civil engineering purposes	In-situ density – sand replacement method (large pouring cylinder)	BS 1377:Part 9:1990	D
	Density and unit weight of soil in place by the sand-cone method	ASTM D1556-15e1	D
END			