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Main Laboratory

Soil Test : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
1.1	Reducing Samples to Testing Size	ASTM C 702	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	-	✓	-	✓	✓	-
1.2	Determination of Moisture content	ASTM D2216	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
1.3	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	ASTM D6913	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
1.4	Materials finer than No. 200(0.075mm) sieve.	ASTM D1140	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓
1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
1.6	Lab Compaction Test using modified Effort	ASTM D 1557	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.7	Correction of Density and Water Content for Soils	ASTM D4718	✓*	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
1.8	Field Density (Sand Cone)	ASTM D1556	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓
1.9	Field Density (Nuclear)	ASTM D6938	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	-	✓	✓	-	-	-	-

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No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
1.10	In Place Moisture Content (Calcium Carbide Tester)	ASTM D4944	√*	√	√	√	-	-	√	√	√	-	-	√	√	-	-	-	-	-	-
1.11	California Bearing Ratio(CBR)	ASTM D1883	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√
1.12	In Place California Bearing Ratio (CBR)	ASTM D4429	-	√	√	√	-	√	√	√	√	√	-	√	√	√*	√	-	-	-	-
1.13	Sand Equivalent Value	ASTM D2419	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	-	√	√	√
1.14	Determination of Moisture Content (Oven Drying)	BS 1377 Part 2: Sec. 3.2	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	-
1.15	Determination of Liquid Limit (Cone Penetrometer)	BS 1377 Part 2: Sec. 4.3	-	√	√	√	-	√	√	√	√	√	√	√	√	√	-	√	√	-	-
1.16	Determination of Liquid Limit (Casagrande Method)	BS 1377 Part 2: Sec. 4.5	-	√	√	√	-	√	√	√	√	√	-	√	√	√	√	√	√	√	-
1.17	Determination of Plastic Limit and Plasticity Index	BS 1377 Part 2: Sec. 5	-	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	-
1.18	Particle Size Distribution (Wet Sieving Method)	BS 1377 Part 2: Sec. 9.2	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	-

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No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
1.19	Particle Size Distribution (Dry Sieving Method)	BS 1377 Part 2: Sec. 9.3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
1.20	Dry Density/Moisture Content Relationship	BS 1377 Part 4: Sec.3.5/3.6	-	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
1.21	Determination of California Bearing Ratio (CBR)	BS 1377 Part4: Sec. 7	-	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-
1.22	In-Situ Density Test (Sand Replacement Method -Small Pouring Cylinder)	BS 1377 Part 9: Sec. 2.1	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	-	✓	-	✓	✓	-	-
1.23	In-Situ Density Test (Sand Replacement Method – Large Pouring Cylinder)	BS 1377 Part 9: Sec. 2.2	-	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	-	-
1.24	In-Situ Density Test (Nuclear Gauge Method)	BS 1377 Part 9: Sec. 2.5	-	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	-
1.25	Determination of Organic Matter Content	BS 1377 Part 3: Sec. 3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	-
1.26	Determination of Water Soluble Chloride Content	BS 1377 Part 3: Sec. 7.2	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	-	-	✓

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			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
1.27	Determination of Acid Soluble Chloride Content	BS 1377 Part 3: Sec. 7.3/5.5	-	√	√	√	√	√	√	√	√	√	-	√	√	√	√	-	√	-	√
1.28	Determination of Water Soluble Sulphate Content	BS 1377 Part 3: Sec. 5.3/5.5	-	√	√	√	√	√	√	√	√	√	-	√	√	√	-	-	-	-	√
1.29	Determination of Acid Soluble Sulphate Content	BS 1377 Part 3: Sec. 5.2	-	√	√	√	√	√	√	√	√	-	√	√	√	√	-	-	-	-	
1.30	Sand Equivalent Value	BS EN 933 Part 8	-	√	√	√	-	√	√	√	√	-	√	-	√	√	-	√	√	-	
1.31	Method of Test for Cement Stabilized Materials	BS 1924 Part 2-C1 4.2	-	√	√	√	-	-	-	√	√	-	-	√	-	-	-	-	-	-	
Aggregate Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
2.1	Sampling of Aggregates	ASTM D75	√	√	√	√	√	√	√	√	√	√	√	√	√	√	-	√	√	√	
2.2	Reducing Samples to Testing Size	ASTM C702	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	-	√	√	

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2.3	Particle Size Distribution	ASTM C136	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	-	√	√	√
2.4	Material Finer than 0.075 mm	ASTM C117	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	-	√	√	√
2.5	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2.6	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2.7	Clay Lumps and Friable Particles.	ASTM C142	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2.8	Lightweight Particles	ASTM C123	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	-	√	√	-
2.9	Organic Impurities for Fine Aggregates	ASTM C40	√	√	√	√	√	√	√	√	√	√	-	√	√	√	√	-	√	-	√
2.10	Flat and Elongated Particles	ASTM D4791	√	√	√	√	-	√	√	√	√	√	-	√	-	√	√	√	-	√	-
2.11	Los Angeles Abrasion	ASTM C131	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2.12	Los Angeles Abrasion	ASTM C535	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√

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2.13	Magnesium Sulphate Soundness	ASTM C88	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	-	-	-	√
2.14	Percentage of Fractured Particles	ASTM D5821	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	-	√	√	-
2.15	Sieve Analysis of Mineral filler	ASTM D546	√	√	√	√	-	√	√	√	√	√	-	√	-	√	√	-	√	-	-
2.16	Uncompacted Void Content of Fine Aggregate	AASHTO T304	-	√	√	√	-	-	-	√	√	-	-	√	√	-	√	-	-	-	-
2.17	Determination of Potential Alkali Reactivity of Carbonate Rocks as Concrete Aggregates	ASTM C586	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.18	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	ASTM D6928	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.19	Uncompacted Void Content of Fine Aggregate	ASTM C1252	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.20	Sampling of Aggregates (From Heaps)	BS 812 Part 102	-	√	√	√	-	√	√	√	√	√	√	√	√	-	√	√	-	√	-

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2.21	Determination of Moisture Content (Oven Drying)	BS 812 Part 109: Sec.6	-	√	√	√	√	√	√	√	√	√	-	√	√	√	√	√	√	-	-
2.22	Determination of Particle Density and Water Absorption	BS EN 1097 Part 6	-	√	√	√	-	-	√	√	√	√	-	√	-	√	√	-	√	√	-
2.23	Particle Density and Water Absorption (All larger than 10mm aggregate)	BS 812 Part 2-5.3	-	√	√	√	-	-	√	√	√	-	√	-	-	-	-	√	-	-	
2.24	Particle Density and Water Absorption (5-40mm aggregate)	BS 812 Part 2-5.4	-	√	√	√	-	-	√	√	√	√	√	√	-	√	-	√	√	-	-
2.25	Particle Density and Water Absorption (10mm aggregate and smaller)	BS 812 Part 2-5.5	-	√	√	√	-	-	√	√	√	√	√	√	-	-	-	√	√	-	-
2.26	Particle Size Distribution	BS EN 933 Part 1	-	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2.27	Particle Size Distribution (Wet)	BS 812 Part 103.1-7.2	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√	-	√	-	-
2.28	Particle Size Distribution (Dry)	BS 812 Part 103.1-7.3	-	√	√	√	-	√	√	√	√	√	√	√	-	√	√	-	√	-	-

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			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
2.29	Material Finer than 0.075 mm	BS EN 933 Part 1	-	√	√	√	-	√	√	√	√	√	√	-	√	√	-	-	-	-	-
2.30	Material Finer than 0.063 mm	BS EN 933 Part 1	-	√	√	√	-	√	√	√	√	√	√	-	√	√	√	-	√	√	-
2.31	Determination of Shell Content	BS EN 933 Part 7	√	√	√	√	-	-	√	√	√	√	√	√	-	√	√	√	√	√	-
2.32	Flakiness Index	BS EN 933 Part 3	-	√	√	√	-	√	√	√	√	-	√	√	√	√	√	-	√	√	√
2.33	Flakiness Index	BS 812 Part 105.1	-	√	√	√	-	√	√	√	√	√	√	√	-	√	-	-	-	-	-
2.34	Elongation (Shape) Index	BS EN 933 Part 4	-	√	√	√	-	√	√	√	√	-	√	√	-	√	√	-	√	√	√
2.35	Elongation Index	BS 812 Part 105.2	-	√	√	√	-	√	√	√	√	√	√	√	-	√	-	-	√	-	-
2.36	Determination of Aggregate Crushing Value	BS 812 Part 110	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	-	√	√	√
2.37	Determination of Ten Percent Value	BS 812 Part 111	-	√	√	√	-	√	√	√	√	√	√	√	-	√	√	√	√	√	-
2.38	Determination of Aggregate Impact Value	BS 812 Part 112	-	√	√	√	-	√	√	√	√	√	√	√	-	-	-	√	√	-	-
2.39	Determination of Magnesium Sulphate Soundness	BS EN 1367 Part 2	-	-	-	√	-	-	√	-	-	-	-	√	-	-	√	-	-	-	-

Aggregate Tests : Approved : (√) | Conditional Approved : (√) | Suspended : (X)

No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
2.40	Determination of Drying Shrinkage	BS EN 1367 Part 4	-	-	-	√	-	-	√	-	-	-	-	√	-	√	√	-	-	√	-
2.41	Determination of Los Angeles Abrasion	BS EN 1097 Part 2 CL5	-	-	-	√	-	-	√	-	-	-	-	√	-	√	-	-	-	√	-
2.42	Methylene blue test	BS EN 933 Part 9	-	-	-	√	-	-	√	-	-	-	-	√	-	-	√	-	-	-	-
2.43	Determination of Acid Soluble Chloride Content	BS EN 1744 Part 5	-	√	√	√	√	√	√	√	√	√	-	√	-	√	√	-	√	-	√
2.44	Determination of Water Soluble Chloride Content	BS 812 Part 117	-	√	√	√	√	√	√	√	√	√	-	√	√	√	√	-	√	-	-
2.45	Determination of Chloride Content (Acid Extract)	BS 812 Part 117-App. C	-	√	√	√	√	-	-	√	√	-	-	√	√	√	√	-	√	-	-
2.46	Determination of Sulphate Content	BS 812 Part 118	-	√	√	√	√	√	-	√	√	√	-	√	√	√	√	-	√	-	-
2.47	Determination of Acid Soluble Sulphate Content	BS EN 1744 Part 1: Sec 12	-	√	√	√	√	√	√	√	√	√	-	√	-	√	√	-	√	-	√

Concrete Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab
3.1	Making and Curing of Concrete Tests Specimen	ASTM C31	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	-
3.2	Sampling of Fresh Concrete	ASTM C172	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	-
3.3	Test for Temperature of Fresh Concrete	ASTM C1064	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	-	✓
3.4	Slump Test	ASTM C143	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	-
3.5	Compressive Strength of Concrete Cylindrical Specimens	ASTM C39	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	-	-	✓	✓	-
3.6	Capping of Cylindrical Concrete Specimen	ASTM C617	-	✓	✓	✓	-	✓	✓	-	✓	-	✓	-	-	✓	-	✓	-	-
3.7	Testing Concrete Cylinders Using Unbonded Caps	ASTM C1231	-	-	✓	-	-	✓	✓	-	✓	-	-	-	-	-	✓	✓	-	-
3.8	Obtaining and Testing of Drilled Cores and Sawed Beams	ASTM C42	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	-	✓	✓	✓	✓	-
3.9	Water Soluble Chloride in Concrete.	ASTM C1218	-	✓	✓	✓	-	-	-	-	✓	-	-	-	-	✓	-	-	-	-

Concrete Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab
3.10	Acid Soluble Chloride in Concrete.	ASTM C1152	-	✓	✓	-	-	-	-	-	✓	-	-	-	-	✓	-	-	-	-
3.11	Resistance to Chloride Ion Penetration	ASTM C1202	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	-	✓	-	✓
3.12	Air Content Test for Fresh Concrete by Pressure Method	ASTM C231	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓
3.13	Air Content Test for Fresh Concrete by Volumetric Method	ASTM C173	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	✓	-	-
3.14	Density Determination for Fresh Concrete	ASTM C138	-	✓	✓	✓	-	✓	✓	✓	✓	-	-	✓	✓	✓	✓	-	✓	✓
3.15	Sampling of Shotcrete	ASTM C1385	-	✓	✓	-	-	✓	-	-	✓	-	-	-	-	-	-	✓	-	-
3.16	Pullout Strength of Hardened Concrete	ASTM C900	-	-	✓	-	-	-	✓	✓	✓	-	-	✓	✓	-	-	✓	✓	-
3.17	Density Determination of Pervious Concrete	ASTM C1688	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	✓	-	-
3.18	Infiltration Test for In place Pervious Concrete	ASTM C1701	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-

Concrete Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab
3.19	Slump Flow Test for Self- Consolidated Concrete	ASTM C1611	-	✓	✓	✓	-	✓	✓	✓	-	-	✓	-	-	-	-	✓	✓	-
3.20	Passing Ability for Self- Consolidating Concrete by J-Ring	ASTM C1621	-	-	✓	✓	-	✓	-	-	-	-	✓	-	-	-	-	✓	-	-
3.21	Determination of Potential Alkali Reactivity of Cement - Aggregate Combinations	ASTM C227	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.22	Admixtures to Inhibit Chloride- Induced Corrosion of Reinforcing Steel in Concrete	ASTM C 1582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.23	Chemical Admixtures for concrete	ASTM C494	-	-	-	-	-	-	✓	-	-	-	-	-	-	✓	-	-	-	-
3.24	Bleeding of Concrete	ASTM C232	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.25	Time of Setting of Concrete Mixtures by Penetration Resistance	ASTM C403	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Concrete Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓
3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓
3.28	Slump Test	BS EN 12350 Part 2	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓
3.29	Flow Table Test	BS EN 12350 Part 5	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	-	✓	-	-	✓	-	✓
3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.32	Density of Hardened Concrete	BS EN 12390 Part 7	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.33	Obtaining and Testing of Drilled Cores	BS EN 12504 Part 1	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	-	-

Concrete Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
3.34	Water Penetration Test	BS EN 12390 Part 8	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	-	✓	✓	-	✓
3.35	Water Absorption Test	BS 1881 Part 122	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓
3.36	Initial Surface Absorption (ISAT)	BS 1881 Part 208	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓	✓	-	✓
3.37	Chloride Penetration Test.	NT Build 492	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	-	✓	-	-	✓	-	✓
3.38	Acid Soluble Chloride in Concrete.	BS 1881 Part 124 Sec. 10.2	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	✓
3.39	Acid Soluble Sulphate in Concrete	BS 1881 Part 124 Sec. 10.3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	✓
3.40	V-Funnel Test for Self-Compacting Concrete	BS EN 12350 Part 9	-	-	✓	✓	-	✓	✓	✓	-	-	-	✓	-	-	-	-	✓	-	-
3.41	L-Box Test for Self-Compacting Concrete	BS EN 12350 Part 10	-	-	✓	✓	-	✓	-	✓	-	-	-	✓	-	-	-	-	✓	-	-
3.42	Fresh Density Of grout	BS EN 445	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Concrete Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
3.43	Fluid Density Of grout (Cone Method)	BS EN 445	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.44	Bleeding Test Of grout	BS EN 445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.45	Volume Change, Vertical Shrinkage of grout	BS EN 445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.46	Compressive Strength of grout	BS EN 445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Masonry Blocks and Paving Units Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
4.1	Compressive Strength of Concrete Masonry Blocks	BS 6073 Part 1	-	✓	✓	✓	-	-	✓	✓	✓	✓	-	-	-	✓	✓	-	-	-	-
4.2	Compressive Strength of Concrete Masonry Blocks	BS EN 772 Part 1	-	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓	✓	-
4.3	Water Absorption for Masonry Blocks	EN 771 Part 3	-	✓	✓	-	-	✓	✓	✓	✓	✓	-	✓	✓	✓	-	✓	✓	-	-

Masonry Blocks and Paving Units Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
4.4	Measurement of Dimensions of Kerbs	BS EN 1340 Annex C	-	√	√	√	-	√	√	√	√	√	-	√	-	√	√	√	√	√	-
4.5	Water Absorption for Kerbs	BS EN 1340 Annex E	-	√	√	√	-	√	√	√	√	√	-	√	-	√	√	√	√	√	-
4.6	Transverse Strength of Kerbs	BS EN 1340 Annex F	-	√	√	√	-	√	√	√	√	√	-	√	-	√	√	√	√	√	-
4.7	Water Absorption for Paving Blocks/Interlocks	BS EN 1338 Annex E	-	√	√	√	-	√	√	√	√	√	-	√	√	√	√	-	√	√	-
4.8	Tensile Strength of Paving Blocks	BS EN 1338 Annex F	-	√	√	√	-	√	√	√	√	√	-	-	√	-	√	-	√	√	-
4.9	Transverse Strength of Concrete Paving Flags/Slabs	BS EN 1339 Appendix F	-	√	√	√	-	√	√	√	√	√	-	-	√	√	-	√	-	√	-
4.10	Water Absorption for Concrete Paving Flags/Slabs	BS EN 1339 Appendix E	-	√	√	√	-	√	√	√	√	√	-	-	√	√	√	√	-	√	√
4.11	Measurement of Dimensions of Paving Blocks	BS 6717 Annex B	-	√	√	√	-	√	√	√	√	√	-	√	√	-	√	-	-	-	-
4.12	Tensile Strength of Paving Blocks	BS 6717 ANNEX E	-	√	√	√	-	√	√	√	√	√	√	√	√	√	-	√	-	-	-

Masonry Blocks and Paving Units Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
4.13	Water Absorption for Interlocks	ASTM C140	-	-	√	√	-	√	√	√	√	√	-	√	-	√	√	-	√	-	-
4.14	Compressive Strength and water Absorption of Terrazzo Tiles (Internal Use)	BS EN 13748 Part 1- Sec.5.5/5.8	-	-	√	√	-	√	√	-	-	-	-	√	√	-	-	-	-	-	-
Cementitious Materials Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
5.1	Taking and Preparing Samples of Cement	BS EN 196 Part 7	-	√	√	√	-	√	√	√	√	√	-	-	-	√	-	-	√	-	-
5.2	Method of Sampling of Cement	ASTM C183	-	√	√	-	-	√	√	√	√	-	-	-	-	√	-	-	√	-	-
5.3	Determination of Strength of Cement	BS EN 196 Part 1	-	√	√	√	-	√	√	√	√	-	-	-	-	√	-	-	√	-	-
5.4	Compressive Strength of Prisms of Cement Mortars	ASTM C349	-	√	√	-	-	√	√	√	√	-	-	-	-	-	-	-	√	-	-
5.5	Compressive Strength of Cube of Hydraulic Cement Mortars	ASTM C109	-	-	-	√	-	-	√	-	-	-	-	√	-	√	√	-	√	-	-

Cementitious Materials Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
5.6	Calcium Oxide Content	BS EN 196 Part 2-CL 13.14	-	√	√	√	√	√	√	√	√	√	-	-	-	√	√	-	-	-	-
5.7	Magnesium Oxide Content	BS EN 196 Part 2-CL 13.15	-	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	-	-
5.8	Aluminum Oxide Content	BS EN 196 Part 2-CL 13.11	-	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	-	-
5.9	Ferric Oxide Content	BS EN 196 Part 2-CL 13.10	-	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	-	-
5.10	Loss on Ignition	BS EN 196 Part 2-CL 7	-	√	√	√	√	√	√	√	√	√	-	-	-	√	√	-	√	-	-
5.11	Impure Silica Content	BS EN 196 Part 2-CL 13.2&3	-	-	√	-	-	√	√	-	√	-	-	-	-	√	-	-	-	-	-
5.12	Pure Silica Content	BS EN 196 art 2-CL 13.6	-	√	√	-	√	-	√	-	√	-	-	-	-	√	-	-	-	-	-

Cementitious Materials Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
5.13	Total Silica Content	BS EN 196 Part 2-Cl. 13.9	-	√	√	√	√	-	√	-	√	-	-	-	-	√	-	-	-	-	
5.14	Alkalies Content	BS EN 196 Part 2-Cl. 17	-	√	√	√	-	-	√	-	√	-	-	-	-	√	-	√	-	-	
5.15	Determination of Setting Times of Cement	BS EN 196 Part 3	-	√	√	√	-	√	√	√	√	-	-	-	√	√	-	√	-	-	
5.16	Determination of Soundness of Cement	BS EN 196 Part 3	-	√	√	√	-	√	√	√	√	√	-	-	√	√	-	√	-	-	
5.17	Setting Time by Vicat Needle	ASTM C191	-	√	√	√	-	√	√	√	√	√	-	-	√	√	-	√	-	-	
5.18	Normal Consistency of Cement	ASTM C187	-	√	√	√	-	√	√	√	√	√	-	-	√	-	-	√	-	-	
5.19	Pozzolanicity Test of Pozzolanic Cement	BS EN 196 Part 5	-	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	
5.20	Chloride Content	BS EN 196 Part 21-Cl. 4	-	√	√	√	√	√	√	-	√	√	-	-	-	-	-	√	-	-	
5.21	Carbon Dioxide Content	BS EN 196 Part 21	-	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	
5.22	Fineness Test of Cement	BS EN 196 Part 6	-	√	√	√	-	√	√	√	√	-	-	-	√	√	-	-	-	-	

Cementitious Materials Tests : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
5.23	Compressive strength for Ground Granulated Blast Furnace Slag	ASTM C989	-	✓	✓	-	-	✓	-	✓	✓	✓	-	-	-	-	-	-	✓	-	-
5.24	Pozzolanic Activity Test	ASTM C1240	-	✓	-	-	-	✓	✓	✓	✓	-	-	-	-	-	✓	-	✓	-	-
5.25	Characterization of Fly Ash for Potential Uses	ASTM D5759	-	-	✓	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-
5.26	Chemical Analysis of Fly Ash	ASTM C311	-	✓	-	✓	-	✓	-	-	✓	-	-	-	-	-	✓	-	-	-	-
5.27	Length Change of Cement Mortars	ASTM C1012	-	-	✓	-	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
5.28	Measurement of Modulus of Elasticity In Flexure And Flexural Strength of Grout	BS 6319 Part 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road and Pavement Tests : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab

Road and Pavement Tests : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
6.1	Sampling of Binders	ASTM D140	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	-
6.2	Distillation of Cutback Asphalt	ASTM D402	-	-	✓	✓	-	-	✓	✓	-	✓	-	-	✓	-	-	-	-	-	-
6.3	Application Rate of Bituminous Distributors	ASTM D2995	-	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	-
6.4	Determination of Density of Bitumen	ASTM D70	✓	-	✓	✓	-	✓	✓	✓	✓	-	✓	-	✓	✓	-	-	✓	✓	✓
6.5	Penetration of Bituminous Materials	ASTM D5	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓
6.6	Determination of Softening Point (Ring and Ball Method)	ASTM D36	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	-	✓	✓
6.7	Flash Point, Cleveland Open Cup	ASTM D92	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	✓	-	✓	-	-	✓	-	-
6.8	Ductility of Bituminous Materials	ASTM D113	✓	✓	✓	✓	-	-	✓	✓	-	-	-	-	✓	-	-	-	-	-	-
6.9	Solubility in Trichloroethylene	ASTM D2042	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-
6.10	Loss on Heating	ASTM D6	✓	✓	✓	✓	-	-	✓	✓	✓	-	-	-	-	-	-	-	-	-	-

Road and Pavement Tests : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
6.11	Determination of Viscosity of Asphalt	ASTM D2171	-	-	-	✓	-	-	-	-	✓	-	-	-	-	✓	-	-	-	-	
6.12	Viscosity Determination using Rotational Viscometer (RV)	ASTM D4402 AASHTO T316	✓	-	✓	✓	-	✓	✓	✓	✓	-	-	✓	-	-	-	-	-	-	
6.13	Flexural Creep Stiffness using the Bending Beam Rheometer (BBR)	ASTM D6648 AASHTO T313	✓	-	✓	✓	-	✓	✓	-	-	-	-	✓	-	-	-	-	-	-	
6.14	Determining the Rheological Properties using Dynamic Shear Rheometer (DSR)	ASTM D7175 AASHTO T315	✓	-	✓	✓	-	✓	✓	-	-	-	-	✓	-	-	-	-	-	-	
6.15	Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)	ASTM D6521 AASHTO R28	✓	-	✓	✓	-	✓	✓	-	-	-	-	✓	-	-	-	-	-	-	
6.16	Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test)	ASTM D2872 AASHTO T240	✓	-	✓	✓	-	✓	✓	-	✓	-	-	✓	-	-	-	-	-	-	
6.17	Multiple Creep and Recovery (MSCR) using Dynamic Shear Rheometer (DSR)	ASTM D7405 AASHTO TP70	✓	-	✓	✓	-	✓	✓	-	-	-	-	✓	-	-	-	-	-	-	

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6.18	Water in Petroleum Products and Bituminous Materials by Distillation	ASTM D95	-	-	✓	✓	-	-	✓	-	-	✓	-	-	-	-	✓	-	-	-	-
6.19	Separation Tendency of Polymers	ASTM D7173	-	-	✓	✓	-	-	✓	-	-	-	-	✓	-	-	-	-	-	-	-
6.20	Solubility of Binders in Toluene	ASTM D5546 AASHTO T44	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.21	Direct Tension Test	ASTM D6723 AASHTO T314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.22	Sampling of Bituminous Mixtures	ASTM D979	✓	✓	-	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.23	Reducing (HMA) Samples to Testing Size	AASHTO R47	-	-	-	✓	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-
6.24	Sampling Compacted Bituminous Mixtures for Laboratory Testing	ASTM D5361	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	-
6.25	Preparation of Specimens Using Marshall Apparatus	ASTM D6926	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓

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6.26	Determination of Bulk Specific Gravity and Density	ASTM D2726	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√
6.27	Bulk Specific Gravity and Density Using Coated Samples	ASTM D1188	-	√	√	√	-	-	√	√	√	√	-	√	-	√	-	-	-	-	-
6.28	Theoretical Maximum Specific Gravity and Density	ASTM D2041	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	-	√	√	√
6.29	Maximum Specific Gravity and Density Using Vacuum Sealing	ASTM D6857	-	-	√	√	-	-	-	-	-	-	-	√	-	√	-	-	-	-	-
6.30	Thickness of Asphalt Specimen	ASTM D3549	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	√	√	√	√
6.31	Marshall Stability and Flow of Bituminous Mixtures	ASTM D6927	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	√	√	√	√
6.32	Resistance to Plastic Flow Using Marshall Apparatus (6 in. Specimen)	ASTM D5581	√	-	√	√	-	-	√	√	√	√	-	√	√	-	-	-	-	-	-
6.33	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures	ASTM D2172	√	√	√	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√

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6.34	Asphalt Content of Hot-Mix Asphalt by Ignition Method	ASTM D6307	√	-	√	-	-	-	-	-	-	-	-	√	√	-	-	-	-	-	-
6.35	Effect of Moisture on Asphalt Concrete Paving Mixtures	ASTM D4867	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.36	Asphalt retained Stability	QCS14 sec 6 part 5.3.3 paragraph 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.37	Mechanical Size Analysis of Extracted Aggregate	ASTM D5444	√	√	√	√	-	√	√	√	√	√	-	√	√	√	√	√	√	√	√
6.38	Density of Bituminous Concrete in Place by Nuclear Methods	ASTM D2950	-	√	√	√	-	√	√	√	√	√	-	√	-	√	√	-	-	-	-
6.39	Sample Preparation and Density of Specimens Using Gyration Compactor	AASHTO T312	√*	-	-	√	-	-	√	√	√	-	-	√	-	-	-	-	-	-	-
6.40	Preparation of Performance Test Specimens Using Gyration Compactor	AASHTO PP60	√*	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-

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6.41	Developing Dynamic Modulus Master Curves Using AMPT	AASHTO PP61	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.42	Determining the Dynamic Modulus and Flow Number for Hot Mix Asphalt (HMA)	AASHTO TP79	-	-	√	-	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-
6.43	Indirect Tensile (IDT) Strength of Bituminous Mixtures	ASTMD 6931	√	√	√	√	-	-	√	-	√	-	√	√	-	-	-	-	-	-	-
6.44	Fatigue life of Asphalt subjected to repeated flexural tester	AASHTO T321	√*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.45	Surface frictional properties using the british pendulum tester	ASTM E303	-	-	√	√	-	-	-	√	-	√	-	√	-	-	-	-	-	-	-
6.46	Skid Resistance of Paved Surfaces Using a Full-Scale Tire	ASTM E274	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.47	Accelerated Polishing of Aggregates Using the British Wheel	ASTM D3319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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6.48	Computing IRI of Roads from Longitudinal Profile Measurements	ASTM E1926	-	-	✓	✓	-	✓	-	-	✓	-	✓	-	-	-	-	-	-	-	-
6.49	Resistance of compacted asphalt to moisture induced damage	AASHTO T283	✓	✓	✓	✓	-	-	✓	-	✓	-	-	✓	-	-	-	-	-	-	
6.50	Temperature Measurement	BS EN 12697 Part 13	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	✓	✓	✓	✓	✓	✓	
6.51	Binder Content of Thermoplastic Material	BS 3262 Part 1- Ap. C	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6.52	Softening Point (Ring and Ball Method) of Thermoplastic Material	BS 2000-58	-	-	✓	✓	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	
6.53	Glass Bead Content of Thermoplastic Material	BS 3262 Part 1- Ap. D	-	-	✓	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	
6.54	Glass Bead Content of Thermoplastic Material	AASHTO T250	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	

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6.55	Determination of Density of Thermoplastic Material	BS 3262 Part 3-Ap. C	-	-	√	-	-	-	-	-	√	√*	-	-	-	-	√	-	-	-	-
6.56	Flash Point (Open) of Thermoplastic Material	BS 2000-35	-	-	√	-	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-
6.57	Flow Resistance of Thermoplastic Material	BS 3262 Part 1-Ap. H	-	-	√	√	-	-	-	-	√	√	-	-	-	-	-	-	-	-	-
6.58	Combined Gradation of Material	BS 3262 Part 1-Ap. D	-	-	√	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-
6.59	Particle Size Distribution of Glass Beads	BS 6088 Appendix B	-	-	√	√	-	-	-	-	√	√	-	-	-	-	-	-	-	-	-
6.60	Measurement of Retro-reflectivity of pavement marking materials	BS EN 1436 Annex A&B	-	-	√	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.61	Measurement of Retro-reflectivity of pavement marking materials	ASTM E1710	-	-	√	-	-	-	-	-	-	-	-	-	-	√	-	-	-	-	-
6.62	Measurement of Skid Resistance	BS 3262 Part 1-Ap. J	-	-	√	√	-	-	√	-	-	√	-	-	-	-	-	-	-	-	-

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6.63	Determination of Heat Stability	BS 3262 Part 1-Ap. G	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.64	Determination of Luminance Factor	BS 3262 Part 1-Ap. F	-	-	√	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.65	Dry Film Thickness	BS 3262 Part 3-Ap. B	-	-	√	√	-	-	-	-	-	√	-	-	-	√	-	-	-	-	-
6.66	Wet Film Thickness by Notch Gauge	BS EN 13197 Annex C	-	-	√	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-
6.67	Wet Film Thickness by Notch Gauge	ASTM D4414	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Steel Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
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			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
7.1	Tensile Strength Test	BS EN 10002- 1	-	√	√	√	-	√	√	√	√	-	-	√	√	-	-	-	√	-	-
7.2	Tensile Strength Test	ASTM A370	-	-	√	-	√	√	√	√	√	-	-	√	√	-	-	-	√	-	-

Steel Tests : Approved : (✓) | Conditional Approved : (✓) | Suspended : (X)

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7.3	Bend Test & Rebind Test	BS 4449 Sec. 7.2.5	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓	-	-
7.4	Tensile Strength Test of Reinforcing bars, wire rods and wires	BS EN ISO 15630-1	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-
7.5	Izod Impact Test of Metals	BS 131 Part 1	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
7.6	Bend Test & Rebind	BS EN ISO 15630-1	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-
7.7	Notched Bar Impact Test of Metals	ASTME23	-	-	-	-	✓	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
7.8	Charpy Impact Method	BS EN 10045	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
7.9	Tensile Test Of High Tensile Steel Wire & Strand	BS EN ISO 15630-3 - cl5	-	-	✓	-	✓	✓	-	-	✓	-	-	✓	-	-	-	-	-	-	-
7.10	Isothermal stress relaxation test Of High Tensile Steel Wire & Strand	BS EN ISO 15630-3 - cl9	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.11	Testing Multi-Wire Steel Prestressing Strand	ASTM A1061	-	-	✓	-	✓	✓	✓	-	✓	-	-	✓	-	-	-	-	-	-	-

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7.12	Tension Testing of Wire Ropes and Strand	ASTM A 931	-	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
7.13	Load Resistance Test Of Manhole Covers	BS EN 124	-	-	√	√	√	-	-	√	√	-	-	-	-	-	-	-	-	-	-
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8.1	Description of Soil and Rock	BS 5930 Section 6	-	√	√	√	-	√	√	√	√	-	-	√	√	-	-	-	-	-	-
8.2	Undrained Triaxial Test without Pore Water Pressure Measurement	BS 1377 Part 7- Sec. 8	-	√	-	√	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
8.3	Point Load Index Determination	ASTM D5731	-	√	√	√	-	√	√	√	√	-	-	√	√	-	-	-	-	-	-
8.4	Preparing Rock Core Specimens to Dimensional and Shape Tolerances	ASTM D4543	-	√	√	√	-	√	√	√	√	√	-	-	-	-	-	-	-	-	-

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8.5	Compressive Strength of Rock Core Specimen	ASTM D7012	-	√	√	√	-	√	√	√	√	√	-	√	√	-	√	√	-	√	-
8.6	Determination of One Dimensional Consolidation Properties of Soils	BS 1377 Part 5- Sec. 3	-	√	√	-	-	-	-	-	√	-	-	-	√	-	-	-	-	-	-
8.7	Determination of One Dimensional Consolidation Properties of Soils	ASTM D2435	-	-	√	√	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
8.8	Direct Shear on Soil (Small Box)	BS 1377 Part 7- Sec. 4	-	√	-	√	-	√	√	√	√	-	-	-	√	-	-	-	-	-	-
8.9	Direct Shear on Soil (Large Box)	BS 1377 Part 7- Sec. 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.10	Direct Shear on Rock	ASTM D5607	-	-	√	-	-	-	-	-	√	-	-	-	√	-	-	-	-	-	-
8.11	One Dimensional Swell of Cohesive Soils	ASTM D4546	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
8.12	Constant Head Permeability Test	BS 1377 Part 5- Sec. 5	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-

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8.13	Vane Shear Test	BS 1377 Part 7- Sec. 3	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.14	Soil Sampling	BS 5930 Cl. 22	-	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	✓	-	-	-	-	-	-
8.15	Ground Water Sampling	BS 5930 Cl. 23	-	✓	✓	✓	-	✓	✓	✓	-	-	-	✓	-	-	-	-	-	-	-
8.16	Ground Water Level Measurement	BS 5930 Cl. 23, 27, 47	-	✓	✓	✓	-	✓	✓	✓	-	-	-	✓	-	-	-	-	-	-	-
8.17	Falling Head Permeability Test	BS 5930 Cl. 25	-	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	✓	-	-	-	-	-	-
8.18	Packer Test / Permeability	BS 5930 Cl. 25	-	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	✓	-	-	-	-	-	-
8.19	Standard Penetration Test (SPT)	BS 1377 Part 9- Sec. 3.3	-	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	✓	-	-	-	-	-	-
8.20	Electrical Resistivity Test	ASTM G57	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	-	-	-	-	-	-
8.21	Plate Load Test	BS 1377 Part 9- Sec. 4.1	-	✓	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	✓	-	-
8.22	Plate Load Test	ASTM D1196	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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8.23	California Bearing Ratio (CBR) Test	BS 1377 Part 9- Sec. 4.3	-	√	√	√	-	√	√	√	√	-	-	√	√	√	-	-	-	-	-
8.24	Dynamic Cone Penetrometer for Shallow Pavements	ASTM D6951	√*	-	√	√	-	√	-	-	√	√	-	-	-	√	-	-	-	-	-
Environmental Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
9.1	pH	APHA/AWWA 4500-H+B	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	√	-	√
9.2	Electrical Conductivity	APHA/AWWA 2510-B	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	√	-	-
9.3	Turbidity	APHA/AWWA 2130 B	√	√	√	√	√	√	√	√	-	-	-	√	√	-	-	-	-	-	-
9.4	Total Solids	APHA/AWWA 2540-B	√*	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	-
9.5	Total Suspended Solids (TSS)	APHA/AWWA 2540-D	√*	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	-

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No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
9.6	Total Volatile Suspended Solids (TVSS)	APHA/AWWA 2540-E	√*	-	√	√	√	√	-	√	-	-	-	√	-	-	-	-	-	-	-
9.7	Total Dissolved Solids (TDS)	APHA/AWWA 2540-C	√	√	√	√	√	√	√	√	-	-	-	√	√	-	-	-	-	-	-
9.8	Total Volatile Dissolved Solids (TVDS)	APHA/AWWA 2540-C	√*	-	√	√	√	√	-	√	-	-	-	√	-	-	-	-	-	-	-
9.9	Settleable Solids	APHA/AWWA 2540-F	√*	√	√	-	√	√	-	√	-	-	-	√	-	-	-	-	-	-	-
9.10	Sludge Weight	APHA, SM,2710 D	√*	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.11	Sludge Volume	APHA, SM,2710 D	√*	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.12	Sludge Volume Index	APHA, SM,2710 D	√*	√	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.13	Total, Fixed Solids in Solid and semi solid samples	APHA 2540 G	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.14	Total Volatile Solids in Solid and semi solid samples	APHA 2540- G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
9.15	Biochemical Oxygen Demand (BOD)	APHA/AWWA Test- 5210B & 4500-OC	√	√	√	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	-
9.16	Dissolved oxygen	APHA/AWWA Test- 4500-O G	√	√	√	√	√	√	√	√	-	-	-	√*	-	-	-	-	-	-	-
9.17	Chemical Oxygen Demand (COD)	APHA/AWWA Test- 5220 D	√	√	√	√	√	√	√	√	-	-	-	-	√	-	-	-	-	-	-
9.18	Chemical Oxygen Demand (COD)	APHA/AWWA Test- 5220 B	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.19	Total Kjeldahl Nitrogen	APHA/AWWA 4500 N	√	√	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.20	Total Organic Nitrogen	APHA/AWWA 4500 N	√	√	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.21	Ammonia Nitrogen	APHA/AWWA Test-4500 NH3 B&C	√	√	√	-	√	-	-	-	-	-	-	√	-	-	-	-	-	-	-
9.22	Nitrate Nitrogen	APHA/AWWA Test- 4500-NO3D	-	√	√	√	√	√	-	-	-	-	-	√	√	-	-	-	-	-	-
9.23	Nitrite Nitrogen	APHA/AWWA Test- 4500-NO2B	-	√	√	-	√	√	√	-	-	-	-	√	-	-	-	-	-	-	-

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			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
9.24	Oil & grease	APHA/AWWA 5520 B	√*	√	√	-	√	√	-	-	-	-	-	-	√	-	-	-	-	-	-
9.25	Total Chlorine	APHA/AWWA 4500-CIG	√*	√	√	√	√	√	√	-	√	-	-	-	-	-	-	-	-	-	-
9.26	Residual Chlorine	APHA/AWWA 4500-CII	√	-	√	-	√	-	-	-	√	-	-	-	√	√	-	-	-	-	-
9.27	Free Chlorine	SMWW Test 4500 ClG	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.28	Chloride	APHA/AWWA 4500-CIB	√*	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	-	-	-
9.29	Chloride	APHA 4110-B	√*	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.30	Sulphate	APHA 4110-B	-	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.31	Nitrate	APHA 4110B	√	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.32	Nitrite	APHA 4110B	√	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.33	Fluride	APHA 4110-B	-	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.34	Iodide	APHA 4110-B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.35	Phosphate	APHA 4110-B	-	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.36	Phosphorous (total)	APHA/AWWA 4500-P D&C	√	√	√	√	√	-	√	√	-	-	-	-	√	√	-	-	-	-	-

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No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
9.37	Phenol Concentrations	APHA/AWWA 5530	-	√	√	-	-	-	-	-	-	-	-	-	√	-	-	-	-	-	-
9.38	Cyanide	APHA/AWWA 4500-CN C&E	-	√	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.39	Sulphate	APHA/AWWA 4500-SO4	√*	√	√	√	√	√	√	√	√	-	-	-	√	√	-	-	-	-	-
9.40	Sulphide	APHA/AWWA 4500--S2 E or F	√*	√	√	-	√	√	√	√	-	√	-	-	-	√	-	-	-	-	-
9.41	Fluoride	APHA/AWWA 4500F	-	√	-	√	√	-	√	-	-	-	-	-	√	-	-	-	-	-	-
9.42	Total Hardness	APHA/AWWA 2340-C	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	-	-	-
9.43	Calcium hardness as calcium carbonate	APHA/AWWA 3500-Ca B	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	-	-	-
9.44	Magnesium Concentration by calculation	APHA/AWWA 3500-Mg B	√	√	√	√	√	√	√	√	-	-	-	-	√	√	-	-	-	-	-
9.45	Magnesium	APHA 3120-B	√	√	√	√	√	√	√	√	-	-	-	-	√	-	-	-	-	-	-
9.46	Calcium	APHA 3120-B	√*	√	√	√	√	√	√	√	-	-	-	-	√	-	-	-	-	-	-
9.47	Sodium	APHA 3120-B	√	√	√	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	-

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9.48	Potassium	APHA 3120-B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.49	Iron	APHA 3120-B	√	√	√	√	√	√	√	√	√	-	-	√	-	-	-	-	-	-	
9.50	Aluminum	APHA 3120-B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.51	Arsenic	APHA 3120 B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.52	Cadmium	APHA 3120 B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.53	Chromium	APHA 3120 B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.54	COBALT	APHA 3120B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.55	Copper	APHA 3120 B	√*	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.56	Nickel	APHA 3120 B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.57	phosphorous	APHA 3120-B	-	-	√	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	
9.58	Zinc	APHA 3120 B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.59	Silicon	APHA 3120-B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.60	Silver	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	
9.61	Antimony	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.62	Barium	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	

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			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
9.63	Beryllium	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.64	Boron	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.65	Manganese	APHA 3120 B	√*	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.66	Molybdenum	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.67	Selenium	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.68	Thallium	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.69	Titanium	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.70	Vanadium	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.71	Lead	APHA 3120 B	√	√	√	√	√	√	√	√	-	-	-	√	-	-	-	-	-	-	
9.72	Lithium	APHA 3120 B	-	√	√	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	
9.73	Mercury	APHA 3120 B	√*	√	√	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	
9.74	Tin	APHA 3120 B	√	√	-	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	
9.75	Chromium(VI)	APHA 3500-Cr B	-	-	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-	
9.76	Bromide	APHA 4110-B	-	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	

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9.77	Bromate	APHA 4110-B	-	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.78	Total Alkalinity	APHA/AWWA 2320-B	√	√	√	√	√	√	√	√	√	-	-	√	√	-	-	√	-	-	
9.79	Phenolphthalein Alkalinity	APHA/AWWA 2320-B	√*	√	√	√	√	√	√	√	√	-	-	√	√	-	-	√	-	-	
9.80	Bicarbonate	APHA 2320-B	-	√	√	√	√	√	√	-	-	-	-	√	√	-	-	√	-	-	
9.81	Carbonate	APHA 2320-B	-	√	√	√	√	√	√	-	-	-	-	√	√	-	-	√	-	-	
9.82	Total Organic Carbon (TOC)	APHA/AWWA 5310-B or C	√*	√	√	-	√	√	√	√	-	-	-	-	-	-	-	-	-	-	
9.83	Residual Pesticides	EPA 608	√*	√	-	-	√	√	√	-	-	-	-	-	-	-	-	-	-	-	
9.84	Zinc	APHA/AWWA 3125-B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.85	lead	APHA/AWWA 3125-B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9.86	Organic Hydrocarbon	APHA/AWWA/ 6200 volatile Organic Compounds	√*	√	√	-	√	√	√	√	-	-	-	-	-	-	-	-	-	-	
9.87	Total Silicates	APHA/AWWA/ 4500- SiO2-C	√*	√	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	

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9.88	Silicon, Aluminum	APHA/AWWA/3111 D Direct Nitrous Oxide – Acetylene flame method (AAS)	√*	√	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.89	Total Coliforms	APHA/AWWA 9222B & 9222D	√*	√	√	-	√	-	-	√	-	-	-	-	-	-	-	-	-	-	-
9.90	Fecal Coliform	APHA/AWWA-9222D	√*	√	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.91	E-Coli	APHA/AWWA-9223B IDEXX method	√*	√	√	√	√	√	√	-	√	-	-	-	-	-	-	-	-	-	√
9.92	Total Coliforms	APHA/AWWA-9223B IDEXX method	√	√	√	√	√	√	√	-	-	-	-	-	-	-	-	-	-	-	√
9.93	Fecal Coliform	APHA/AWWA-9223B IDEXX method	√	√	√	√	√	-	√	-	-	-	-	-	-	-	-	-	-	-	√
9.94	Nematodes (Helminths) Eggs	WHO, Lab manual of Parasitological and Bacteriological Techniques, 1996	√	√	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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9.95	Microscopic Examination	-	√*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.96	Pseudomonas Aeruginosa	APHA 9213-E	-	√	√	√	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-
9.97	Fecal Streptococcus/Enterococcus	APHA 9230-C	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.98	Legionella	APHA 9260-J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.99	Detection of Enterococci	APHA 9223 B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.100	Enteric Viruses	RT – PCR Methodology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.101	Cryptosporidium	RT – PCR Methodology	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Destructive : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
10.1	Falling Weight Deflectometer	ASTM D4694	√*	-	-	-	-	-	-	-	-	-	-	√	-	-	-	-	-	-	-

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No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
10.2	Road Profilometer (IRI)	ASTM E950	√*	-	√	√	-	√	-	-	√	-	-	√	-	-	-	-	-	-	-
10.3	Measuring Rut-Depth of Pavement Surfaces Using a Straightedge	ASTM E1703	-	-	-	√	-	-	√	-	-	√	-	√	-	√	√	-	-	-	-
10.4	Pavement Quality Indicator	ASTM D7113	√*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.5	Rebound Hammer Test for Concrete	ASTM C805	√	-	√	√	-	√	√	√	√	-	-	√	√	√	√	√	√	√	-
10.6	Rebound Hammer of Hardened Concrete	BS EN 12504-2	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.7	Concrete Cover Determination	BS 1881 Part 204	-	√	√	√	-	√	√	√	-	-	-	-	√	-	-	-	√	-	-
10.8	Ultrasonic Pulse Velocity	BS EN 12504 Part 4	-	-	√	√	-	√	√	√	√	-	-	-	√	-	√	√	√	√	-
10.9	Crack Width Gauge	Gauge Manual	-	-	√	√	-	√	√	-	-	-	-	-	-	-	-	-	-	-	-
10.10	Crack Measurement Microscope	Microscope Manual	-	-	√	-	-	√	√	√	-	-	-	-	√	-	-	-	-	-	-

Non Destructive : Approved : (✓) Conditional Approved : (✓) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
10.11	Pile Integrity (Pulse Echo Test)	ASTM D5882	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
10.12	Pile Integrity (Cross Hole Test)	ASTM D6760	-	-	✓	-	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
10.13	Pile Dynamic Test	ASTM D4945	-	-	✓	-	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
10.14	Caliper Logging of Borehole	ASTM D6167	-	-	✓	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-
10.15	Coating Pull-Off Test	ASTM D4541	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	✓	-	-
10.16	Coating Thickness Measurement	ASTM D7091 / D6132	-	-	✓	✓	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-
10.17	Holiday Detection of Coating	ASTM D4787 / D5162	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
10.18	Magnetic Particle Inspection	ASTM E709 / ASME - Sec. V	-	-	✓	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-	-	-
10.19	Dye Penetration Test	ASTM E165 / ASME - Sec. V	-	-	✓	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-	-	-

Geotextiles & Waterproofing Test : Approved : (✓) Conditional Approved : (✓) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
11.1	Breaking Strength and Elongation of Textile Fabrics (Grab Test).	ASTM D5034	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.2	Textiles Puncture Resistance.	ASTM D751	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.3	Textiles Bursting Strength.	ASTM D3787	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.4	Trapezoid Tearing Strength of Geotextiles.	ASTM D4533	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.5	Static Puncture Test (CBR Test)	BS EN ISO 12236	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.6	Tensile Strength & Elongation At Rupture.	BS EN ISO 10319	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.7	Breaking Strength and Elongation of Textile (strip Test).	ASTM D5035	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.8	Dynamic Perforation Test (Cone Drop Test)	BS EN ISO 13433	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.9	Water Permeability	BS EN ISO 11058	-	-	✓	✓	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-

Geotextiles & Waterproofing Test : Approved : (√) Conditional Approved : (√) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
11.10	Pore Size	BS EN ISO 12956	-	-	√	√	-	-	-	√	√	-	-	-	-	-	-	-	-	-	-
11.11	Determination Of Mass Per Unit Area (Weight)	BS EN 12127	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.12	Measuring The Nominal Thickness Of Geosynthetics	ASTM D5199	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.13	Determination Of Thickness Of Textiles	BS EN ISO 5084	-	-	-	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.14	Determination of Tensile Properties for plastic	ASTM D 638	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.15	Determination of Tensile Properties for plastic	BS EN ISO 527 Part 3	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.16	Tensile strength of Vulcanized Rubber and Thermoplastic Elastomers	ASTM D 412	-	-	√	-	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.17	Initial Tear Resistance of Plastic Film and Sheeting	ASTM D 1004	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-

Geotextiles & Waterproofing Test : Approved : (√) Conditional Approved : (√) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
11.18	Pressure-Sensitive Adhesion to Primed Concrete	ASTM D 1000	-	-	√	√	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-
11.19	Puncture Resistance of Ground Covers	ASTM E 154	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.20	Water Absorption of Plastics	ASTM D 570	-	-	√	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-
11.21	Resistance of Plastics to Chemical Reagents	ASTM D 543	-	-	√	√	-	-	-	√	-	-	-	-	-	-	-	-	-	-	-
11.22	Water Vapor Transmission rate	ASTM E 96	-	-	√	√	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-
11.23	Brittleness Temperature of Plastics and Elastomers by Impact	ASTM D 746	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.24	Determination of Durometer Hardness	ASTM D 2240	-	-	√	√	-	-	-	√	√	-	-	-	-	-	-	-	-	-	-
11.25	Determination of thickness and mass per unit area of Bitumen sheets for roof waterproofing	BS EN 1849-1	-	-	-	√	-	√	-	√	√	-	-	-	-	-	-	-	-	-	-

Geotextiles & Waterproofing Test : Approved : (✓) Conditional Approved : (✓) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
11.26	Determination of thickness and mass per unit area of Plastic and rubber sheets	BS EN 1849-2	-	-	✓	-	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
11.27	Dimensions Measurement of Rubber	ASTM D 3767	-	-	-	-	-	✓	-	✓	✓	-	-	-	-	-	-	-	-	-	-
Leakage Testing of Buildings : Approved : (✓) Conditional Approved : (✓) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
12.1	Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences	ASTM E283	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.2	Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Static Air Pressure Difference	ASTM E330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leakage Testing of Buildings : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
12.3	Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference	ASTM E331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.4	Air Permeability of Doors and Windows	BS EN 1026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.5	Water tightness of Doors and Windows	BS EN 1027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.6	Doors and Windows Resistance to Wind Loads	BS EN 12211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	Air Permeability of Curtain Walling	BS EN 12153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.8	Water Tightness of Curtain Walling under Static Pressure	BS EN 12155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.9	Resistance to Wind Load of Curtain Walling	BS EN 12179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.10	Air Permeability of Buildings	BS EN 13829	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Leakage Testing of Buildings : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
12.11	Water Penetration using Dynamic Pressure for Windows, Curtain Walls and Doors	AAMA 501.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.12	Water leakage field check for Storefronts, Curtain Walls and Sloped Glazing Systems	AAMA 501.2	-	-	-	-	-	√	-	√	-	-	-	-	-	-	-	-	-	-	-
Paints and vernishies : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
13.1	Density of Liquid Coatings, Inks & paints	ASTM D1475	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
13.2	Measurement of Dry-Film Thickness of Organic Coatings	ASTM D1005	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
13.3	Measurement of Wet Film Thickness of Organic Coatings	ASTM D1212	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-

Paints and vernishes : Approved : (√) Conditional Approved : (√*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
13.4	Scrub Resistance of Wall Paints	ASTM D2486	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
13.5	Viscosity of Paints	ASTM D562	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.6	Sag Resistance of Paints	ASTM D4400	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7	Measurement of specular gloss of nonmetallic paint films	BS EN ISO 2813	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.8	Fineness of Dispersion of Pigment- Vehicle Systems	ASTM D1210	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.9	Determination of color and color difference	ISO 7724-2	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.10	Comparison of contrast ratio	BS EN ISO 2814	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.11	Determination of pH value of aqueous suspension	BS EN ISO 787-9	-	-	√	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-
13.12	Cross-cut test of paints & varnishes	BS EN ISO 2409	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-
13.13	Adhesion (Pull off) strength	ASTM D4541	-	-	√	-	-	-	-	-	√	-	-	-	-	-	-	-	-	-	-

Paints and vernishes : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																				
No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab
13.14	Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing	ASTM D3723 -	-	-	✓	-	-	✓	-	-	✓	-	-	-	-	-	-	-	-	-
13.15	Determination of resistance to liquids	ASTM D5401	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
13.16	Pigments for the coloring of building materials	BS EN 12878	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.17	Determination Volatile Content of Coatings	ASTM D2369	-	-	✓	-	-	✓	-	-	✓	-	-	-	-	-	-	-	-	-
13.18	Determination of the Nonvolatile Content	ASTM D5095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.19	Bend Test of Attached Organic Coatings	ASTM D522	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.20	Bend test of Paints and vernishes	BS EN ISO 1519	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.21	Abrasion Resistance of Organic Coatings by the Taber Abraser	ASTM D4060	-	-	✓	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-
13.22	Tensile Properties of Organic Coatings	ASTM D2370	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paints and vernishes : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																				
No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab
13.23	Fluorescent UV-Condensation Exposures of Paint and Related Coatings	ASTM D4587	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.24	Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings	ASTM D822	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.25	Drying, Curing, or Film Formation of Organic Coatings at Room Temperature	ASTM D1640	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
13.26	Rheological Properties of Non-Newtonian Materials by Rotational Viscometer	ASTM D2196	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
13.27	Alkali Resistance	ASTM D1647	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
Electrical and Lightning Tests : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																				
No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab

Electrical and Lightening Tests : Approved : (√) Conditional Approved : (√*) Suspended : (X)																				
No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab
14.1	Luminares for roadway lighting	IEC 60598-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.2	Electrical and Photometric Measurements of Solid-State Lighting Products	IES LM-79-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.3	Measuring Lumen Maintenance of LED Light Sources	LM-80-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.4	LED modules for general lighting - Performance requirements	IEC 62717	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.5	Luminaire performance - Particular requirements for LED luminaires	IEC 62722-2-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asphalt Mix Preparation and Verification : Approved : (√) Conditional Approved : (√*) Suspended : (X)																				
No.	Test Name	Standard	Laboratory																	
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab
15.1	Asphalt Mix Design	Marshall Mixtures	-	-	√	√	-	-	√	-	-	-	-	-	-	-	-	-	-	-

Asphalt Mix Preparation and Verification : Approved : (✓) Conditional Approved : (✓*) Suspended : (X)																					
No.	Test Name	Standard	Laboratory																		
			Ashghal	Gulflab	ACES	DTL	Element Doha LLC	ACTS	Tech Lab	QIL	QEL	Pioneer	Teyseer labs	ITL	QGEC	Al Baraha	JEL	Geotechnical Group	CTL	Universal lab	Torch Material Testing Lab
15.2	Asphalt Mix Verification*	*Mix design verification shall be carried out by a lab different from the one that prepared the mix.	-	-	✓	✓	-	-	✓	-	-	-	-	-	✓	-	-	-	-	-	-

Notes: - It is the responsibility of the Engineer and Consultant to ensure the materials testing laboratory proposed by the Contractor is totally independent and has no relationship, inclusive of formal, financial, family, or legal, or other with the Contractor or the Contractors Sub-contractors.

- (✓*) means conditional approval.
- (X) Means suspended test.

ملاحظات: - انها مسؤولية مهندس المشروع والاستشاري للتأكد من عدم وجود صلة بين المختبر المقترح والمقاول أو المقاول من الباطن بأي شكل كان سواء قانوني، مالي، عائلي أو خلافه.

- (✓*) تعني اعتماد مشروط ولفترة محدودة.

- (X) تعني الاختيار تم تعليقه بعد اعتماد.

Site Laboratory

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	ACES	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	ACES	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318
	ACES	Soil Test	1.4	Materials finer than No. 200(0.075mm) sieve.	ASTM D1140
	ACES	Soil Test	1.13	Sand Equivalent Value	ASTM D2419
	ACES	Soil Test	1.3	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	ASTM D6913
	ACES	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	ACES	Soil Test	1.7	Correction of Density and Water Content for Soils	ASTM D4718
	ACES	Soil Test	1.8	Field Density (Sand Cone)	ASTM D1556
	ACES	Soil Test	1.11	California Bearing Ratio(CBR)	ASTM D1883
	ACES	Aggregate Tests	2.7	Clay Lumps and Friable Particles.	ASTM C142
	ACES	Aggregate Tests	2.30	Material Finer than 0.063 mm	BS EN 933Part 1
	ACES	Aggregate Tests	2.3	Particle Size Distribution	ASTM C136
	ACES	Aggregate Tests	2.31	Determination of Shell Content	BS EN 933 Part 7
	ACES	Aggregate Tests	2.32	Flakiness Index	BS EN 933 Part 3
	ACES	Aggregate Tests	2.10	Flat and Elongated Particles	ASTM D4791
	ACES	Aggregate Tests	2.36	Determination of Aggregate Crushing Value	BS 812 Part 110
	ACES	Aggregate Tests	2.40	Determination of Drying Shrinkage	BS EN 1367 Part 4
	ACES	Aggregate Tests	2.41	Determination of Los Angeles Abrasion	BS EN 1097 Part 2 Cl.5
	ACES	Aggregate Tests	2.37	Determination of Ten Percent Value	BS 812 Part 111
	ACES	Aggregate Tests	2.22	Determination of Particle Density and Water Absorption	BS EN 1097 Part 6

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
Construction and Upgrading of Mesaimmer Road (P008-C3)	ACES	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	ACES	Aggregate Tests	2.2	Reducing Samples to Testing Size	ASTM C702
	ACES	Aggregate Tests	2.23	Sampling of Aggregates (From Heaps)	BS 812 Part 102
	ACES	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	ACES	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2
	ACES	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2
	ACES	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	ACES	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
	ACES	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7
	ACES	Concrete Tests	3.33	Obtaining and Testing of Drilled Cores	BS EN 12504 Part 1
	ACES	Road and Pavement Tests	6.22	Sampling of Bituminous Mixtures	ASTM D979
	ACES	Road and Pavement Tests	6.24	Sampling Compacted Bituminous Mixtures for Laboratory Testing	ASTM D5361
	ACES	Road and Pavement Tests	6.25	Preparation of Specimens Using Marshall Apparatus	ASTM D6926
	ACES	Road and Pavement Tests	6.26	Determination of Bulk Specific Gravity and Density	ASTM D2726
	ACES	Road and Pavement Tests	6.28	Theoretical Maximum Specific Gravity and Density	ASTM D2041
	ACES	Road and Pavement Tests	6.30	Thickness of Asphalt Specimen	ASTM D3549
ACES	Road and Pavement Tests	6.31	Marshall Stability and Flow of Bituminous Mixtures	ASTM D6927	

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	ACES	Road and Pavement Tests	6.33	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures	ASTM D2172
	ACES	Road and Pavement Tests	6.37	Mechanical Size Analysis of Extracted Aggregate	ASTM D5444
	ACES	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	ACES	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318
	ACES	Soil Test	1.4	Materials finer than No. 200(0.075mm) sieve.	ASTM D1140
	ACES	Soil Test	1.13	Sand Equivalent Value	ASTM D2419
	ACES	Soil Test	1.3	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	ASTM D6913
	ACES	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	ACES	Soil Test	1.7	Correction of Density and Water Content for Soils	ASTM D4718
	ACES	Soil Test	1.8	Field Density (Sand Cone)	ASTM D1556
	ACES	Soil Test	1.11	California Bearing Ratio(CBR)	ASTM D1883
	ACES	Aggregate Tests	2.6	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127
	ACES	Aggregate Tests	2.7	Clay Lumps and Friable Particles.	ASTM C142
	ACES	Aggregate Tests	2.30	Material Finer than 0.063 mm	BS EN 933Part 1
	ACES	Aggregate Tests	2.3	Particle Size Distribution	ASTM C136
	ACES	Aggregate Tests	2.31	Determination of Shell Content	BS EN 933 Part 7
	ACES	Aggregate Tests	2.4	Material Finer than 0.075 mm	ASTM C117
	ACES	Aggregate Tests	2.32	Flakiness Index	BS EN 933 Part 3
	ACES	Aggregate Tests	2.10	Flat and Elongated Particles	ASTM D4791

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
DESIGN AND CONSTRUCTION OF AL BUSTAN STREET NORTH (P007 C7 P2)	ACES	Aggregate Tests	2.36	Determination of Aggregate Crushing Value	BS 812 Part 110
	ACES	Aggregate Tests	2.5	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128
	ACES	Aggregate Tests	2.37	Determination of Ten Percent Value	BS 812 Part 111
	ACES	Aggregate Tests	2.22	Determination of Particle Density and Water Absorption	BS EN 1097 Part 6
	ACES	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	ACES	Aggregate Tests	2.2	Reducing Samples to Testing Size	ASTM C702
	ACES	Aggregate Tests	2.23	Sampling of Aggregates (From Heaps)	BS 812 Part 102
	ACES	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	ACES	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2
	ACES	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2
	ACES	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	ACES	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
	ACES	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7
	ACES	Concrete Tests	3.33	Obtaining and Testing of Drilled Cores	BS EN 12504 Part 1
	ACES	Road and Pavement Tests	6.22	Sampling of Bituminous Mixtures	ASTM D979
	ACES	Road and Pavement Tests	6.24	Sampling Compacted Bituminous Mixtures for Laboratory Testing	ASTM D5361
	ACES	Road and Pavement Tests	6.25	Preparation of Specimens Using Marshall Apparatus	ASTM D6926
ACES	Road and Pavement Tests	6.26	Determination of Bulk Specific Gravity and Density	ASTM D2726	

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	ACES	Road and Pavement Tests	6.28	Theoretical Maximum Specific Gravity and Density	ASTM D2041
	ACES	Road and Pavement Tests	6.30	Thickness of Asphalt Specimen	ASTM D3549
	ACES	Road and Pavement Tests	6.31	Marshall Stability and Flow of Bituminous Mixtures	ASTM D6927
	ACES	Road and Pavement Tests	6.33	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures	ASTM D2172
	ACES	Road and Pavement Tests	6.37	Mechanical Size Analysis of Extracted Aggregate	ASTM D5444
	Tech Lab	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	Tech Lab	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318
	Tech Lab	Soil Test	1.1	Reducing Samples to Testing Size	ASTM C 702
	Tech Lab	Soil Test	1.19	Particle Size Distribution (Dry Sieving Method)	BS 1377 Part 2: Sec. 9.3
	Tech Lab	Soil Test	1.20	Dry Density/Moisture Content Relationship	BS 1377 Part 4: Sec.3.5/3.6
	Tech Lab	Soil Test	1.21	Determination of California Bearing Ratio (CBR)	BS 1377 Part4: Sec. 7
	Tech Lab	Soil Test	1.22	In-Situ Density Test (Sand Replacement Method -Small Pouring Cylinder)	BS 1377 Part 9: Sec. 2.1
	Tech Lab	Soil Test	1.23	In-Situ Density Test (Sand Replacement Method – Large Pouring Cylinder)	BS 1377 Part 9: Sec. 2.2
	Tech Lab	Soil Test	1.24	In-Situ Density Test (Nuclear Gauge Method)	BS 1377 Part 9: Sec. 2.5
	Tech Lab	Soil Test	1.13	Sand Equivalent Value	ASTM D2419
	Tech Lab	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	Tech Lab	Soil Test	1.7	Correction of Density and Water Content for Soils	ASTM D4718

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
Design and Build of Al Khor Expressway Construction of Link Roads Adjacent to Al Khor Expressway	Tech Lab	Soil Test	1.8	Field Density (Sand Cone)	ASTM D1556
	Tech Lab	Soil Test	1.9	Field Density (Nuclear)	ASTM D6938
	Tech Lab	Soil Test	1.10	In Place Moisture Content (Calcium Carbide Tester)	ASTM D4944
	Tech Lab	Soil Test	1.11	California Bearing Ratio(CBR)	ASTM D1883
	Tech Lab	Soil Test	1.14	Determination of Moisture Content (Oven Drying)	BS 1377 Part 2: Sec. 3.2
	Tech Lab	Soil Test	1.15	Determination of Liquid Limit (Cone Penetrometer)	BS 1377 Part 2: Sec. 4.3
	Tech Lab	Soil Test	1.17	Determination of Plastic Limit and Plasticity Index	BS 1377 Part 2: Sec. 5
	Tech Lab	Soil Test	1.18	Particle Size Distribution (Wet Sieving Method)	BS 1377 Part 2: Sec. 9.2
	Tech Lab	Aggregate Tests	2.21	Determination of Moisture Content (Oven Drying)	BS 812 Part 109: Sec.6
	Tech Lab	Aggregate Tests	2.23	Particle Density and Water Absorption (All larger than 10mm aggregate)	BS 812 Part 2-5.3
	Tech Lab	Aggregate Tests	2.24	Particle Density and Water Absorption (5-40mm aggregate)	BS 812 Part 2-5.4
	Tech Lab	Aggregate Tests	2.25	Particle Density and Water Absorption (10mm aggregate and smaller)	BS 812 Part 2-5.5
	Tech Lab	Aggregate Tests	2.26	Particle Size Distribution	BS EN 933 Part 1
	Tech Lab	Aggregate Tests	2.27	Particle Size Distribution (Wet)	BS 812 Part 103.1-7.2
	Tech Lab	Aggregate Tests	2.6	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127
	Tech Lab	Aggregate Tests	2.28	Particle Size Distribution (Dry)	BS 812 Part 103.1-7.3
	Tech Lab	Aggregate Tests	2.29	Material Finer than 0.075 mm	BS EN 933 Part 1
	Tech Lab	Aggregate Tests	2.30	Material Finer than 0.063 mm	BS EN 933Part 1
	Tech Lab	Aggregate Tests	2.3	Particle Size Distribution	ASTM C136

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	Tech Lab	Aggregate Tests	2.31	Determination of Shell Content	BS EN 933 Part 7
	Tech Lab	Aggregate Tests	2.4	Material Finer than 0.075 mm	ASTM C117
	Tech Lab	Aggregate Tests	2.36	Determination of Aggregate Crushing Value	BS 812 Part 110
	Tech Lab	Aggregate Tests	2.5	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128
	Tech Lab	Aggregate Tests	2.37	Determination of Ten Percent Value	BS 812 Part 111
	Tech Lab	Aggregate Tests	2.22	Determination of Particle Density and Water Absorption	BS EN 1097 Part 6
	Tech Lab	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	Tech Lab	Aggregate Tests	2.13	Magnesium Sulphate Soundness	ASTM C88
	Tech Lab	Aggregate Tests	2.23	Sampling of Aggregates (From Heaps)	BS 812 Part 102
	Tech Lab	Concrete Tests	3.3	Test for Temperature of Fresh Concrete	ASTM C1064
	Tech Lab	Concrete Tests	3.11	Resistance to Chloride Ion Penetration	ASTM C1202
	Tech Lab	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	Tech Lab	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2
	Tech Lab	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2
	Tech Lab	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	Tech Lab	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
	Tech Lab	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7
	Tech Lab	Concrete Tests	3.34	Water Penetration Test	BS EN 12390 Part 8
	Tech Lab	Concrete Tests	3.35	Water Absorption Test	BS 1881 Part 122
	ACES	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	ACES	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	ACES	Soil Test	1.4	Materials finer than No. 200(0.075mm) sieve.	ASTM D1140
	ACES	Soil Test	1.13	Sand Equivalent Value	ASTM D2419
	ACES	Soil Test	1.3	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	ASTM D6913
	ACES	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	ACES	Soil Test	1.7	Correction of Density and Water Content for Soils	ASTM D4718
	ACES	Soil Test	1.8	Field Density (Sand Cone)	ASTM D1556
	ACES	Soil Test	1.11	California Bearing Ratio(CBR)	ASTM D1883
	ACES	Aggregate Tests	2.6	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127
	ACES	Aggregate Tests	2.7	Clay Lumps and Friable Particles.	ASTM C142
	ACES	Aggregate Tests	2.30	Material Finer than 0.063 mm	BS EN 933Part 1
	ACES	Aggregate Tests	2.3	Particle Size Distribution	ASTM C136
	ACES	Aggregate Tests	2.31	Determination of Shell Content	BS EN 933 Part 7
	ACES	Aggregate Tests	2.4	Material Finer than 0.075 mm	ASTM C117
	ACES	Aggregate Tests	2.32	Flakiness Index	BS EN 933 Part 3
	ACES	Aggregate Tests	2.10	Flat and Elongated Particles	ASTM D4791
	ACES	Aggregate Tests	2.36	Determination of Aggregate Crushing Value	BS 812 Part 110
	ACES	Aggregate Tests	2.5	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128
	ACES	Aggregate Tests	2.37	Determination of Ten Percent Value	BS 812 Part 111
	ACES	Aggregate Tests	2.22	Determination of Particle Density and Water Absorption	BS EN 1097 Part 6
	ACES	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75

Design and Build of Al Khor Expressway(16-031) Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	ACES	Aggregate Tests	2.2	Reducing Samples to Testing Size	ASTM C702
	ACES	Aggregate Tests	2.23	Sampling of Aggregates (From Heaps)	BS 812 Part 102
	ACES	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	ACES	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2
	ACES	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2
	ACES	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	ACES	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
	ACES	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7
	ACES	Concrete Tests	3.33	Obtaining and Testing of Drilled Cores	BS EN 12504 Part 1
	ACES	Road and Pavement Tests	6.22	Sampling of Bituminous Mixtures	ASTM D979
	ACES	Road and Pavement Tests	6.24	Sampling Compacted Bituminous Mixtures for Laboratory Testing	ASTM D5361
	ACES	Road and Pavement Tests	6.25	Preparation of Specimens Using Marshall Apparatus	ASTM D6926
	ACES	Road and Pavement Tests	6.26	Determination of Bulk Specific Gravity and Density	ASTM D2726
	ACES	Road and Pavement Tests	6.28	Theoretical Maximum Specific Gravity and Density	ASTM D2041
	ACES	Road and Pavement Tests	6.30	Thickness of Asphalt Specimen	ASTM D3549
	ACES	Road and Pavement Tests	6.31	Marshall Stability and Flow of Bituminous Mixtures	ASTM D6927
	ACES	Road and Pavement Tests	6.33	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures	ASTM D2172

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	ACES	Road and Pavement Tests	6.37	Mechanical Size Analysis of Extracted Aggregate	ASTM D5444
	Gulflab	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	Gulflab	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318
	Gulflab	Soil Test	1.19	Particle Size Distribution (Dry Sieving Method)	BS 1377 Part 2: Sec. 9.3
	Gulflab	Soil Test	1.20	Dry Density/Moisture Content Relationship	BS 1377 Part 4: Sec.3.5/3.6
	Gulflab	Soil Test	1.21	Determination of California Bearing Ratio (CBR)	BS 1377 Part4: Sec. 7
	Gulflab	Soil Test	1.24	In-Situ Density Test (Nuclear Gauge Method)	BS 1377 Part 9: Sec. 2.5
	Gulflab	Soil Test	1.13	Sand Equivalent Value	ASTM D2419
	Gulflab	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	Gulflab	Soil Test	1.7	Correction of Density and Water Content for Soils	ASTM D4718
	Gulflab	Soil Test	1.9	Field Density (Nuclear)	ASTM D6938
	Gulflab	Soil Test	1.11	California Bearing Ratio(CBR)	ASTM D1883
	Gulflab	Soil Test	1.14	Determination of Moisture Content (Oven Drying)	BS 1377 Part 2: Sec. 3.2
	Gulflab	Soil Test	1.16	Determination of Liquid Limit (Casagrande Method)	BS 1377 Part 2: Sec. 4.5
	Gulflab	Soil Test	1.17	Determination of Plastic Limit and Plasticity Index	BS 1377 Part 2: Sec. 5
	Gulflab	Soil Test	1.18	Particle Size Distribution (Wet Sieving Method)	BS 1377 Part 2: Sec. 9.2
	Gulflab	Aggregate Tests	2.21	Determination of Moisture Content (Oven Drying)	BS 812 Part 109: Sec.6
	Gulflab	Aggregate Tests	2.26	Particle Size Distribution	BS EN 933 Part 1
	Gulflab	Aggregate Tests	2.27	Particle Size Distribution (Wet)	BS 812 Part 103.1-7.2

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
QPR - Dukhan Road (East Contract)	Gulflab	Aggregate Tests	2.6	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127
	Gulflab	Aggregate Tests	2.7	Clay Lumps and Friable Particles.	ASTM C142
	Gulflab	Aggregate Tests	2.3	Particle Size Distribution	ASTM C136
	Gulflab	Aggregate Tests	2.31	Determination of Shell Content	BS EN 933 Part 7
	Gulflab	Aggregate Tests	2.4	Material Finer than 0.075 mm	ASTM C117
	Gulflab	Aggregate Tests	2.32	Flakiness Index	BS EN 933 Part 3
	Gulflab	Aggregate Tests	2.10	Flat and Elongated Particles	ASTM D4791
	Gulflab	Aggregate Tests	2.38	Determination of Aggregate Impact Value	BS 812 Part 112
	Gulflab	Aggregate Tests	2.14	Percentage of Fractured Particles	ASTM D5821
	Gulflab	Aggregate Tests	2.5	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128
	Gulflab	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	Gulflab	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	Gulflab	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	Gulflab	Aggregate Tests	2.2	Reducing Samples to Testing Size	ASTM C702
	Gulflab	Aggregate Tests	2.16	Uncompacted Void Content of Fine Aggregate	AASHTO T304
	Gulflab	Aggregate Tests	2.23	Sampling of Aggregates (From Heaps)	BS 812 Part 102
	Gulflab	Concrete Tests	3.3	Test for Temperature of Fresh Concrete	ASTM C1064
	Gulflab	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	Gulflab	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2
	Gulflab	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	Gulflab	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	Gulflab	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
	Gulflab	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7
	Gulflab	Concrete Tests	3.33	Obtaining and Testing of Drilled Cores	BS EN 12504 Part 1
	Gulflab	Road and Pavement Tests	6.3	Application Rate of Bituminous Distributors	ASTM D2995
	Gulflab	Road and Pavement Tests	6.22	Sampling of Bituminous Mixtures	ASTM D979
	Gulflab	Road and Pavement Tests	6.24	Sampling Compacted Bituminous Mixtures for Laboratory Testing	ASTM D5361
	Gulflab	Road and Pavement Tests	6.25	Preparation of Specimens Using Marshall Apparatus	ASTM D6926
	Gulflab	Road and Pavement Tests	6.26	Determination of Bulk Specific Gravity and Density	ASTM D2726
	Gulflab	Road and Pavement Tests	6.27	Bulk Specific Gravity and Density Using Coated Samples	ASTM D1188
	Gulflab	Road and Pavement Tests	6.28	Theoretical Maximum Specific Gravity and Density	ASTM D2041
	Gulflab	Road and Pavement Tests	6.30	Thickness of Asphalt Specimen	ASTM D3549
	Gulflab	Road and Pavement Tests	6.31	Marshall Stability and Flow of Bituminous Mixtures	ASTM D6927
	Gulflab	Road and Pavement Tests	6.33	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures	ASTM D2172
	Gulflab	Road and Pavement Tests	6.37	Mechanical Size Analysis of Extracted Aggregate	ASTM D5444

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	Gulflab	Road and Pavement Tests	6.50	Temperature Measurement	BS EN 12697 Part 13
	DTL	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	DTL	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318
	DTL	Soil Test	1.4	Materials finer than No. 200(0.075mm) sieve.	ASTM D1140
	DTL	Soil Test	1.13	Sand Equivalent Value	ASTM D2419
	DTL	Soil Test	1.3	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	ASTM D6913
	DTL	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	DTL	Soil Test	1.7	Correction of Density and Water Content for Soils	ASTM D4718
	DTL	Soil Test	1.11	California Bearing Ratio(CBR)	ASTM D1883
	DTL	Aggregate Tests	2.6	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127
	DTL	Aggregate Tests	2.3	Particle Size Distribution	ASTM C136
	DTL	Aggregate Tests	2.4	Material Finer than 0.075 mm	ASTM C117
	DTL	Aggregate Tests	2.10	Flat and Elongated Particles	ASTM D4791
	DTL	Aggregate Tests	2.5	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128
	DTL	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	DTL	Aggregate Tests	2.2	Reducing Samples to Testing Size	ASTM C702
	DTL	Concrete Tests	3.12	Air Content Test for Fresh Concrete by Pressure Method	ASTM C231
	DTL	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	DTL	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2

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Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
	DTL	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2
	DTL	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	DTL	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
	DTL	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7
	DTL	Road and Pavement Tests	6.22	Sampling of Bituminous Mixtures	ASTM D979
	DTL	Road and Pavement Tests	6.24	Sampling Compacted Bituminous Mixtures for Laboratory Testing	ASTM D5361
	DTL	Road and Pavement Tests	6.25	Preparation of Specimens Using Marshall Apparatus	ASTM D6926
	DTL	Road and Pavement Tests	6.26	Determination of Bulk Specific Gravity and Density	ASTM D2726
	DTL	Road and Pavement Tests	6.28	Theoretical Maximum Specific Gravity and Density	ASTM D2041
	DTL	Road and Pavement Tests	6.30	Thickness of Asphalt Specimen	ASTM D3549
	DTL	Road and Pavement Tests	6.31	Marshall Stability and Flow of Bituminous Mixtures	ASTM D6927
	DTL	Road and Pavement Tests	6.33	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures	ASTM D2172
	DTL	Road and Pavement Tests	6.37	Mechanical Size Analysis of Extracted Aggregate	ASTM D5444
	QEL	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	QEL	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318
	QEL	Soil Test	1.4	Materials finer than No. 200(0.075mm) sieve.	ASTM D1140

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
CONSTRUCTION OF AL BUSTAN STREET SOUTH (P007 C5 P1)	QEL	Soil Test	1.1	Reducing Samples to Testing Size	ASTM C 702
	QEL	Soil Test	1.3	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	ASTM D6913
	QEL	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	QEL	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	QEL	Concrete Tests	3.3	Test for Temperature of Fresh Concrete	ASTM C1064
	QEL	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	QEL	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2
	QEL	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2
	QEL	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	QEL	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
	QEL	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7
	QEL	Soil Test	1.2	Determination of Moisture content	ASTM D2216
	QEL	Soil Test	1.5	Liquid Limit, Plastic Limit and Plasticity Index of Soil	ASTM D 4318
	QEL	Soil Test	1.4	Materials finer than No. 200(0.075mm) sieve.	ASTM D1140
	QEL	Soil Test	1.30	Sand Equivalent Value	BS EN 933 Part 8
	QEL	Soil Test	1.13	Sand Equivalent Value	ASTM D2419
	QEL	Soil Test	1.3	Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis	ASTM D6913
	QEL	Soil Test	1.6	Lab Compaction Test using modified Effort	ASTM D 1557
	QEL	Soil Test	1.7	Correction of Density and Water Content for Soils	ASTM D4718
	QEL	Aggregate Tests	2.26	Particle Size Distribution	BS EN 933 Part 1
	QEL	Aggregate Tests	2.6	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127

Project Name	Laboratory	Test Category	Test No.	Test Name	Standard
QEL CP832-TSE Seasonal Storage Lagoon (Phase 1)	QEL	Aggregate Tests	2.7	Clay Lumps and Friable Particles.	ASTM C142
	QEL	Aggregate Tests	2.3	Particle Size Distribution	ASTM C136
	QEL	Aggregate Tests	2.31	Determination of Shell Content	BS EN 933 Part 7
	QEL	Aggregate Tests	2.4	Material Finer than 0.075 mm	ASTM C117
	QEL	Aggregate Tests	2.32	Flakiness Index	BS EN 933 Part 3
	QEL	Aggregate Tests	2.33	Flakiness Index	BS 812 Part 105.1
	QEL	Aggregate Tests	2.11	Los Angeles Abrasion	ASTM C131
	QEL	Aggregate Tests	2.35	Elongation Index	BS 812 Part 105.2
	QEL	Aggregate Tests	2.5	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128
	QEL	Aggregate Tests	2.22	Determination of Particle Density and Water Absorption	BS EN 1097 Part 6
	QEL	Aggregate Tests	2.1	Sampling of Aggregates	ASTM D75
	QEL	Aggregate Tests	2.2	Reducing Samples to Testing Size	ASTM C702
	QEL	Concrete Tests	3.3	Test for Temperature of Fresh Concrete	ASTM C1064
	QEL	Concrete Tests	3.26	Sampling of Fresh Concrete	BS EN 12350 Part 1
	QEL	Concrete Tests	3.27	Making and Curing of Specimen for Strength Test	BS EN 12390 Part 2
	QEL	Concrete Tests	3.28	Slump Test	BS EN 12350 Part 2
	QEL	Concrete Tests	3.30	Shape and Dimensions of Specimen	BS EN 12390 Part 1
	QEL	Concrete Tests	3.31	Compressive Strength of Concrete Specimens	BS EN 12390 Part 3
QEL	Concrete Tests	3.32	Density of Hardened Concrete	BS EN 12390 Part 7	

Calibration Laboratory

Seq No.	Laboratory	Field	Item	Range	CMC	Location
1	AI BADER	Force	Compression machines	Up to 3336 kN 0.1kN to 3000 kN	0.66% 0.17%	Doha
2	AI BADER	Force	Proving rings Compression Tension	0.001 kN to 200 kN 0.1 to 50 KN	0.27% 0.25%	Doha
3	AI BADER	Force	Wheel Tracker Parameters - Static Load, Temperature, Displacement	Up to 158 lb Ambient to 100 °C	0.05 lb 0.2 °C	Doha
4	AI BADER	Force	Compression testing machine performance test (stability verification)	Up to 45 mm	0.001 mm	Doha
5	AI BADER	Force	Pull off tester	1 kN to 2000 kN	0.16%	Doha
6	AI BADER	Force	Torque	0 psi to 3500 psi/1psi	5 psi	Doha
7	AI BADER	Force	Hardness Rockwell hardness machines	0 N.m to 500 N.m	0.60%	Doha
8	AI BADER	Force	Hardness shore (D)	15HRC to 20 HRC 20 HRC to 65 HRC	1.4 HRC 0.8 HRC	Doha
9	AI BADER	Force	Leeb hardness	0 HRD to 100 HRD	2 HRD	Doha
10	AI BADER	Force	Durometer hardness	500 HLD to 900 HLD	1.8 HLD	Doha
11	AI BADER	Force	Glass thermometer	20 Duro to 100 Duro	3 Duro	Doha
12	AI BADER	Thermal	Glass thermometer	-40 to 200°C 25 to 650 °C	0.06 °C 0.06 °C	Doha
13	AI BADER	Thermal	Prop thermometer, switch gauge, transmitter	-40 to 200°C/0.01°C 25 to 650°C/0.01°C	0.06 °C 0.06 °C	Doha
14	AI BADER	Thermal	Controllers,	-40 to 200°C/0.01°C 25 to 650°C/0.01°C	0.06 °C 0.06 °C	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
14	AI BADER	Thermodynamics	Temperature indicator, Temperature Gauge, Thermometer, Thermocouple Type (B, E, J, K, R, S &T)	-20 to 150 °C -40 to 650°C 650 to 1000 °C >1000 to 1200 °C	0.06 °C 0.06 °C 0.41 °C 1.0 °C	Doha
15	AI BADER	Thermal	Thermocouple Indicators Type J	-210 to 1200°C/0.01°C	0.5°C	Doha
16	AI BADER	Thermal	Thermocouple Indicators Type T	-270 to 400°C/0.01°C	0.5°C	Doha
17	AI BADER	Thermal	Thermocouple Indicators Type R	-50 to 1768°C/0.01°C	0.5°C	Doha
18	AI BADER	Thermal	Thermocouple Indicators Type S	-50 to 1768°C/0.01°C	0.5°C	Doha
19	AI BADER	Thermal	Thermocouple Indicators Type N	-270 to 1300°C/0.01°C	0.5°C	Doha
20	AI BADER	Thermal	Thermocouple Indicators Type E	-270 to 1000°C/0.01°C	0.5°C	Doha
21	AI BADER	Thermal	Non-contact surface thermometer / IR thermometer	-60 °C to 200°C/0.1°C 200°C to 500°C/1°C	1° C 1.5° C	Doha
22	AI BADER	Thermal	Contact type thermometer	0° C to 100° C/0.01° C 0	0.05°C	Doha
23	AI BADER	Thermal	Ovens freezers Fridge incubators	Up to 650°C -40°C to 40°C Up To 100°C	0.08°C 0.08°C 0.07°C	Doha
24	AI BADER	Thermal	Oven profiling (Temperature Deviation, Time Constant, Rate of Ventilation)	-80 °C to 550 °C 5 s to 60 min (2 to 300) Air changes/hour	0.98°C 0.8 s 3/h	Doha
25	AI BADER	Thermal	Air flow meter	0.6 SLPM to 13 SLPM	0.1 SLPM	Doha
26	AI BADER	Thermal	Liquid baths	Up to 650°C	0.08°C	Doha
27	AI BADER	Thermal	Muffle furnaces	Up to 1200°C/1°C	0.75°C	Doha
28	AI BADER	Thermal	Hygrometer	10% R.H to 90% R.H 0 °C to 50°C	2.1% R.H 0.5 °C	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
29	AI BADER	Dimensional	Calipers	0 to 300 mm 300 to 600 mm 0 to 300mm 0 to 300mm	6.1µm 13µm 8µm 5.9µm	Doha
30	AI BADER	Dimensional	Micrometers	0to150mm 150to300mm 300 to 600mm 0to150mm 0 to 600 mm 25 mm travel	1.4µm 6.8µm 7.8µm 2.7µm 12µm 7µm	Doha
31	AI BADER	Dimensional	Height gageslength Dial Digital Vernier	0 to 300mm/0.01mm >300 to 600mm/0.01 mm	12 µm 13µm	Doha
32	AI BADER	Dimensional	Cylindrical gage - plugs and pins	Up to 10mm Up to 150mm	3.2µm 3.5µm	Doha
33	AI BADER	Dimensional	Surface Roughness	Ra (0.8 to 1.6) Ra (1.6 to 6.3) Ra (6.3 to 12.5) (0.05 to 15) µm	0.19µm 0.73 µm 1.4 µm	Doha
34	AI BADER	Dimensional	Ring gauges cylindrical & tapered Bore gauge	Up to 2mm	7µm	Doha
35	AI BADER	Dimensional	Length standard Metal tape measure	0mm to 1000mm 1m to 2m 2 m to 3 m 3 m to 4 m 4 m to 5 m	0.29 mm 0.58 mm 0.87 mm 1.2 mm 1.4 mm	Doha
36	AI BADER	Dimensional	Coating thickness	Up to 1507.15µm Up to 1503.5 µm	1.4 µm 1 µm	Doha
37	AI BADER	Dimensional	Thickness gauge Feeler gauge	Up to 50mm/0.01 mm Up to 2 mm	7µm 3.3µm	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
38	AI BADER	Dimensional	Gyratory compactor, Angle, Height ,Pressure	0° to 1.5° 114.38 mm 200 to 1000 kPa	0.03° 27 µm 12 kPa	Doha
39	AI BADER	Dimensional	Digital Level protractor	0 ° to 60 °	0.11 °	Doha
40	AI BADER	Dimensional	Laser Distance Meter Resolution: 0.1 mm Resolution: 1 mm	Up to 1000mm Up to 1000 mm	0.058 mm 0.58 mm	Doha
41	AI BADER	Dimensional	Extensometer Electronic Dial Indicator/Gauge, Linear Transducer	Up to 50 mm Up to 50 mm	4.9 µm 7.5 µm 1.4 µm	Doha
42	AI BADER	Time & Frequency	Stopwatch/timer	5 sec to 9 hrs >9 to < 24 hrs	0.035sec 0.3 sec	Doha
43	AI BADER	Time & Frequency	Rotational speed/ Tachometer	1 rpm to <10 000 rpm (10 000 to <11 000) rpm	0.18 rpm 1.4 rpm	Doha
44	AI BADER	Time & Frequency	Vibration Acceleration Velocity	200 m/s ² 200 m/s	2.5 m/ s ² 3 mm/s	Doha
45	AI BADER	Time & Frequency	Frequency meter	(5 to 10) Hz 40 Hz to 300 kHz 300 kHz to 1 MHz	0.58 % 0.32 % 0.48 %	Doha
46	AI BADER	Time & Frequency	Non - contact tachometer	3rpm to 99 rpm 100 rpm to 999rpm 1000 rpm to 9999 rpm 10000 rpm to 99999 rpm	0.4 rpm 1.5 rpm 4 rpm 13 rpm	Doha
47	AI BADER	Radiation	Nuclear density gauge - density	1775.4 kg/m ³ 2101.5kg/m ³ 2143.1 kg/m ³ 2174.3 kg/m ³ 2179.1 kg/m ³ 2188.8 kg/m ³ 2226.8 kg/m ³ 2685.7 kg/m ³	0.3 % 1.3 % 1.1 % 1 % 1.2% 1% 0.3 % 0.3%	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
48	AI BADER	Radiation	Nuclear density gauge - moisture	531.2 kg/m ³ 546.5 kg/m ³ 549.5 kg/m ³ 564.3 kg/m ³ 566.9 kg/m ³ 592.5 kg/m ³	4 % 4.5% 4% 1.3% 4.9% 4.1%	Doha
49	AI BADER	Electrical	DC voltage generate	0.001 mV to 329.9999mV/01μV 0.00001 V to 3.299999V/1μV 0.0001 V to 32.99999V/10μV 30 V to 329.9999V/100μV 100V to 1020.000V/1000μV	0.00059% 0.00065% 0.00050% 0.00043% 0.00040%	Doha
50	AI BADER	Electrical	DC voltage measure	30.003 mV to 100 mV/100 mV 0.006 mV to 1V/1μV 0.004 V to 10V/10μV 0.006 V to 100V/100μV 0.006 V to 1000V/1mV	0.84% 0.37% 0.33% 0.51% 0.59%	Doha
51	AI BADER	Electrical	DC Resistance measure	0.003 Ω to 10Ω/10μΩ 3.003 Ω to 100Ω/100μΩ 0.05 kΩ to 1kΩ/1mΩ 0.05 kΩ to 10kΩ/10mΩ 0.05 kΩ to 100kΩ/100mΩ 0.01 MΩ to 1MΩ/1Ω 0.01 MΩ to 10MΩ/10Ω 0.4 MΩ to 100MΩ/100Ω 0.01 GΩ to 1GΩ/1kΩ	0.35% 0.0074% 0.0015% 0.0019% 0.0014% 0.0012% 0.0019% 0.0002% 0.0043%	Doha
52	AI BADER	Electrical	DC high voltage source	0.5 kV to 70 kV	58 V	Doha
53	AI BADER	Sound	Sound Level Meters Sound Level Calibrators	94 dB and 114 dB 94 dB and 114 dB	0.6 dB 1.3 dB	Doha
54	AI BADER	Sound	Ultrasonic Tester	26.0 μs	0.076 μs	Doha
55	AI BADER	Volume	Volume-Measure and Measuring Equipment	5 to 1000 μL 1 to 500 mL 500 to 2000 mL	3.1 μL 0.24 mL 5.66 mL	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
56	AI BADER	Dimensional	Test Sieve	63 µm to 2 mm 2.0 to 125 mm	1.4 % of nominal sieve size 0.4 % of nominal sieve size	Doha
57	INCO Calibration Lab – Kuwait	Dimensional	Caliper-Digital	Up to 600 mm	15 µm	Kuwait
58	INCO Calibration Lab – Kuwait	Dimensional	Vernier - Calipers 0.02 mm 0.05 mm	Up to 600 mm Up to 600 mm	15 µm 30 µm	Kuwait
59	INCO Calibration Lab – Kuwait	Dimensional	Height Gauge digital	Up to 600 mm	(3 + 10L) µm 15 µm	Kuwait
60	INCO Calibration Lab – Kuwait	Dimensional	Micrometers – External Depth	Up to 100 mm Up to 100 mm	1.5 µm 1.5 µm	Kuwait
61	INCO Calibration Lab – Kuwait	Dimensional	Dial Indicator	Up to 50 mm Up to 100 mm	(1.3 + 22L) µm (1.3 + 22L) µm	Kuwait
62	INCO Calibration Lab – Kuwait	Dimensional	Linear Variable Displacement Transducer (LVDT)	Up to 50 mm	(1.3 + 22L) µm	Kuwait
63	INCO Calibration Lab – Kuwait	Dimensional	Feeler Gauge	(0.05 to 5) mm	3 µm	Kuwait
64	INCO Calibration Lab – Kuwait	Dimensional	Test Sieve (Aperture)	(0.06 to 125) mm	5 µm	Kuwait
65	INCO Calibration Lab – Kuwait	Dimensional	Profile Projector	Up to 200 mm	3 µm	Kuwait
66	INCO Calibration Lab – Kuwait	Dimensional	Universal Measuring Machine – Dial Calibrator	Up to 50 mm	0.6 µm	Kuwait
67	INCO Calibration Lab – Kuwait	Dimensional	Coating Thickness Gauge	Up to 1000 µm	4 µm	Kuwait
68	INCO Calibration Lab – Kuwait	Dimensional	Steel Rule	Up to 1000 mm	(15 + 18L) µm	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
69	INCO Calibration Lab – Kuwait	Dimensional	Linear Measurement	Up to 50 mm Up to 200 mm Up to 600 mm	1 μ m 5 μ m 30 μ m	Kuwait
70	INCO Calibration Lab – Kuwait	Electrical	DC Voltage – Generate	(0 to 330) mV (0 to 3.3) V (0 to 33) V (30 to 330) V (100 to 1000) V (1 to 1000) kV	0.024 % + 5 μ V 9 μ V/V + 3.9 μ V 12 μ V/V + 24 μ V 15 μ V/V + 0.17 mV 13 μ V/V + 2.1 mV 0.1 % + 0.009 kV	Kuwait
71	INCO Calibration Lab – Kuwait	Electrical	DC Current – Generate	(0 to 330) μ A (0 to 3.3) mA (0 to 33) mA (0 to 330) mA (0 to 1.1) A (1.1 to 3) A (0 to 11) A (11 to 20.5) A	0.011 % + 13 nA 75 μ A/A + 34 nA 0.10 mA/A + 0.18 μ A 0.26 mA/A + 1.9 μ A 0.33 mA/A + 31 μ A 0.82 mA/A 0.81 mA/A + 1.1 mA 0.60 mA/A + 3.4 mA	Kuwait
72	INCO Calibration Lab – Kuwait	Electrical	DC Power – Generate	10.89 μ W to 337 W 10.89 mW to 3.06 kW 99 mW to 20.91 kW	0.03 % + 24 nW 0.07 % + 21 μ W 0.08 % + 0.18 mW	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
73	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Generate (1.0 to 33) mV	(10 to 45) Hz 45 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz	0.05 % + 9 μV 0.01 % + 9.1 μV 0.12 % + 8 μV 0.14 % + 7.8 μV	Kuwait
74	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Generate - (33 to 330) mV	10 Hz to 20 kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.02 % + 8 μV 0.13 % 0.14 % 0.15 %	Kuwait
75	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Generate - 0.33 to 3.3) V	(10 to 45) Hz 45 Hz to 20 kHz (20 to 100) kHz (100 to 500) kHz	0.03 % + 29 μV 0.02 % + 29 μV 0.14 % 0.15 %	Kuwait
76	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Generate - (3.3 to 33) V	10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 100) kHz	0.03 % + 0.33 mV 0.02 % + 0.54 mV 0.14 % + 0.58 mV 0.14 %	Kuwait
77	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Generate - (33 to 330) V	45 Hz to 10 kHz (10 to 50) kHz (50 to 100) kHz	0.14 % 0.02 % + 4.2 mV 0.04 %	Kuwait
78	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Generate - 330 to 1020) V	45 Hz to 1 kHz (1 to 10) kHz	0.13 % + 37 mV 0.13 % + 25 mV	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
79	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Generate - (1 to 1000) kV	Up to 1 kHz	0.1 % + 0.009 kV	Kuwait
80	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (29 to 330) μ A	(10 to 45) Hz 45 Hz to 5 kHz (5 to 10) kHz (10 to 30) kHz	0.14 % + 60 nA 0.13 % + 64 nA 0.18 % + 0.24 μ A 0.54 % + 0.13 μ A	Kuwait
81	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (0.33 to 3.3) mA	(10 to 45) Hz 45 Hz to 5 kHz (5 to 10) kHz (10 to 30) kHz	0.13 % + 24 nA 0.12 % + 61 nA 0.17 % + 0.11 μ A 0.31 % + 1.6 μ A	Kuwait
82	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (3.3 to 33) mA	10 Hz to 5 kHz (5 to 10) kHz (10 to 30) kHz	0.11 % + 0.6 μ A 0.12 % + 0.8 μ A 0.16 % + 6.9 μ A	Kuwait
83	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (33 to 330) mA	10 Hz to 5 kHz (5 to 10) kHz (10 to 30) kHz	0.14 % 0.17 % + 9.4 μ A 0.17 % + 0.17 mA	Kuwait
84	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (0.33 to 1.1) A	10 Hz to 5 kHz (5 to 10) kHz	0.07 % + 0.32 mA 0.41 % + 0.71 mA	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
85	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (1.1 to 3) A	(10 to 45) Hz 45 Hz to 5 kHz (5 to 10) kHz	0.24 % 0.21 % 0.42 % + 0.54 mA	
86	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (3 to 11) A	(45 to 100) Hz 100 Hz to 5 kHz	0.1 % + 2.5 mA 0.02 % + 4.8 mA	Kuwait
87	INCO Calibration Lab – Kuwait	Electrical	AC Current – Generate - (11 to 20.5) A	(45 to 100) Hz 100 Hz to 5 kHz	0.15 % 0.05 % + 9.5 mA	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
88	INCO Calibration Lab – Kuwait	Electrical	Resistance – Generate	(50 to 200) $\mu\Omega$ (0.5 to 2) m Ω (5 to 20) m Ω (50 to 200) m Ω (0.5 to 2) Ω (0 to 11) Ω (11 to 33) Ω (33 to 110) Ω (110 to 330) Ω 1.1 k Ω to 330 k Ω to 3.3) k Ω 1.1(to 11) k Ω 3.3(to 33) k Ω 11(to 110) k Ω 33(to 330) k Ω 110(k Ω to 1.1 M Ω 330 to 3.3) M Ω 1.1(to 11) M Ω 3.3(to 33) M Ω 11(to 110) M Ω 33(0.9 % + 54 n Ω 0.58 % 0.23 % + 0.67 n Ω 0.12 % + 2 x10-8 p Ω 0.12 % + 0.66 $\mu\Omega$ 8.2 m Ω 14 $\mu\Omega/\Omega$ + 11 m Ω 19 $\mu\Omega/\Omega$ + 10 m Ω 20 $\mu\Omega/\Omega$ + 14 m Ω 21 $\mu\Omega/\Omega$ + 13 m Ω 20 $\mu\Omega/\Omega$ + 140 m Ω 20 $\mu\Omega/\Omega$ + 67 m Ω 20 $\mu\Omega/\Omega$ + 660 m Ω 20 $\mu\Omega/\Omega$ + 680 m Ω 24 $\mu\Omega/\Omega$ + 6.7 Ω 29 $\mu\Omega/\Omega$ + 5.6 Ω 69 $\mu\Omega/\Omega$ + 74 Ω 89 $\mu\Omega/\Omega$ + 0.2 k Ω 0.017 % + 2 k Ω 0.61 m Ω/Ω	Kuwait	

Seq No.	Laboratory	Field	Item	Range	CMC	Location
89	INCO Calibration Lab – Kuwait	Electrical	Capacitance – Generate	(0.19 to 0.4) nF (0.4 to 1.1) nF (1.1 to 3.3) nF (3.3 to 11) nF (11 to 33) nF (33 to 110) nF (110 to 330) nF (0.33 to 1.1) μ F (1.1 to 3.3) μ F (3.3 to 11) μ F (11 to 33) μ F (33 to 110) μ F (110 to 330) μ F (0.33 to 1.1) mF	7.8 pF 9.8 pF 15 pF 27 pF 0.11 nF 0.27 nF 0.78 nF 6.2 nF 0.21 % + 4.8 nF 0.22 % + 17 nF 0.29 % + 47 nF 0.41 % + 0.14 μ F 0.36 % + 0.6 μ F 0.63 % + 95 nF	Kuwait
90	INCO Calibration Lab – Kuwait	Electrical	AC Power – Generate - 108.9 μ W to 99 W 08.9 μ W to 20.5 kW 1.089 mW to 3 kW 108.9 mW to 20.5 kW 10.89 mW to 20.5 kW	(10 to 45) Hz (45 to 65) Hz (65 to 500) Hz (65 to 500) Hz 500 Hz to 1 kHz	0.27 % 0.16 % + 11 nW 0.23 % 0.2 % 0.21 %	Kuwait
91	INCO Calibration Lab – Kuwait	Electrical	Phase – Generate	0° to 180°	6.7 % + 0.03°	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
92	INCO Calibration Lab – Kuwait	Electrical	DC Voltage – Measure	(100 to 200) mV 200 mV to 2 V (2 to 20) V (20 to 200) V (200 to 1000) V	1.4 $\mu\text{V}/\text{V}$ + 3.5 μV 4 $\mu\text{V}/\text{V}$ + 1 μV 4.1 $\mu\text{V}/\text{V}$ + 8 μV 6.4 $\mu\text{V}/\text{V}$ + 0.11 mV 6.3 $\mu\text{V}/\text{V}$ + 0.73 mV	Kuwait
93	INCO Calibration Lab – Kuwait	Electrical	DC High Voltage – Measure	(1 to 40) kV	0.06 kV	Kuwait
94	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Measure - (100 to 200) mV	(20 to 40) Hz 40 Hz to 2 kHz (2 to 30) kHz (30 to 100) kHz	0.12 mV/V + 8 μV 0.11 mV/V + 7 μV 0.14 mV/V + 8 μV 0.8 mV/V + 23 μV	Kuwait
95	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Measure - 200 mV to 2 V	(20 to 40) Hz 40 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz	0.10 mV/V + 26 μV 84 $\mu\text{V}/\text{V}$ + 26 μV 0.13 mV/V + 26 μV 0.24 mV/V + 51 μV 0.61 mV/V + 0.23 mV 60 $\mu\text{V}/\text{V}$ + + 0.23 mV 0.35 mV	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
96	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Measure - (2 to 20) V	(20 to 40) Hz 40 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz 100 kHz to 1 MHz	0.10 mV/V + 0.26 mV 83 μV/V + 0.26 mV 0.13 mV/V + 0.26 mV 0.13 mV/V + 0.28 mV 0.61 mV/V + 2.3 mV 61 μV/V μV/V + 2.3 mV	Kuwait
97	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Measure - (20 to 200) V	(20 to 40) Hz (40 to 100) Hz 100 Hz to 10 kHz (10 to 30) kHz (30 to 100) kHz	97 μV/V + 4 mV 100 μV/V + 3.3 mV 0.12 mV/V + 3.3 mV 0.12 mV/V + 3.4 mV 0.61 mV/V + 23 mV	Kuwait
98	INCO Calibration Lab – Kuwait	Electrical	AC Voltage – Measure - (200 to 1000) V	45 Hz to 10 kHz (10 to 30) kHz	1.3 mV/V + 31 mV 0.27 mV/V + 31 mV	
99	INCO Calibration Lab – Kuwait	Electrical	AC High Voltage – Measure (1 to 25) kV	(50 to 60) Hz	0.06 kV	Kuwait
100	INCO Calibration Lab – Kuwait	Electrical	AC High Current – Measure (20 to 200) A	50 Hz to 1 kHz	2.5 % + 86 mA	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
101	INCO Calibration Lab – Kuwait	Electrical	DC Current – Measure	(100 to 200) μ A 200 μ A to 2 mA (2 to 20) mA (20 to 200) mA 200 mA to 2 A (2 to 10) A	16 μ A/A + 0.38 nA 16 μ A/A + 4 nA 18 μ A/A + 38 nA 57 μ A/A + 0.76 μ A 0.21 mA/A + 15 μ A 0.47 mA/A + 0.38 mA	Kuwait
102	INCO Calibration Lab – Kuwait	Electrical	DC High Current – Measure	(20 to 200) A	0.23 % + 0.53 A	Kuwait
103	INCO Calibration Lab – Kuwait	Electrical	Resistance – Measure, Fixed Points	2 Ω 20 Ω 200 Ω 2 k Ω 20 k Ω 200 k Ω 2 M Ω 20 M Ω 200 M Ω	20 $\mu\Omega/\Omega$ + 5 $\mu\Omega$ 11 $\mu\Omega/\Omega$ + 17 $\mu\Omega$ 9.7 $\mu\Omega/\Omega$ + 57 $\mu\Omega$ 9.5 $\mu\Omega/\Omega$ + 1 m Ω 9.7 $\mu\Omega/\Omega$ + 6 m Ω 9.6 $\mu\Omega/\Omega$ + 79 m Ω 12 $\mu\Omega/\Omega$ + 1.5 Ω 24 $\mu\Omega/\Omega$ + 120 Ω 0.14 m Ω/Ω + 11 k Ω	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
104	INCO Calibration Lab – Kuwait	Electrical	DC Clamp – Generate Toroidal - Types	(10 to 16.5) A (16.5 to 150) A (150 to 1025) A	0.31 % + 19 mA 0.32 % + 17 mA 0.29 % + 71 mA	Kuwait
105	INCO Calibration Lab – Kuwait	Electrical	DC Clamp - Non - Toroidal Types	(10 to 16.5) A (16.5 to 150) A (150 to 1025) A	0.62 % + 18 mA 0.55 % + 170 mA 0.63 % + 560 mA	Kuwait
106	INCO Calibration Lab – Kuwait	Relative Humidity	AC Clamp – Generate Toroidal Types (10 to 16.5) A (16.5 to 150) A (150 to 1025) A	(45 to 65) Hz	0.31 % + 9.2 mA 0.39 % + 16 mA 0.38 % + 140 mA	Kuwait
107	INCO Calibration Lab – Kuwait	Electrical	AC Clamp - Generate Toroidal Types (10 to 16.5) A (16.5 to 150) A (150 to 1025) A	(65 to 440) Hz	0.92 % + 7.7 mA 0.91 % + 29 mA 0.97 % + 43 mA	Kuwait
108	INCO Calibration Lab – Kuwait	Electrical	AC Clamp - Generate Non - Toroidal Types (10 to 16.5) A (16.5 to 150) A (150 to 1025) A	(45 to 65) Hz	0.62 % + 38 mA 0.67 % + 290 mA 0.69 % + 980 mA	

Seq No.	Laboratory	Field	Item	Range	CMC	Location
109	INCO Calibration Lab – Kuwait	Electrical	AC Clamp - Generate Non-Toroidal Types (10 to 16.5) A (16.5 to 150) A (150 to 1025) A	(65 to 440) Hz	1.3 % + 27 mA 1.2 % + 300 mA 1.2 % + 1.1 A	
110	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type B	(600 to 800) °C (800 to 1000) °C (1000 to 1550) °C (1550 to 1820) °C	0.31 °C 0.56 °C 0.29 °C 0.12 °C	Kuwait
111	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type E	(-250 to -100) °C (-100 to -25) °C (-25 to 350) °C (350 to 1000) °C	0.77 °C 0.68 °C 0.71 °C 0.7 °C	Kuwait
112	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type J	(-210 to -100) °C (-100 to -30) °C (-30 to 760) °C (760 to 1200) °C	0.92 °C 0.9 °C 0.91 °C 0.9 °C	Kuwait
113	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type K	(-200 to -100) °C (-100 to -25) °C (-25 to 1000) °C (1000 to 1372) °C	0.93 °C 0.9 °C 0.91 °C 0.86 °C	Kuwait
114	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type N	(-200	0.94 °C 0.9 °C 0.91 °C	Kuwait
115	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type R	to -100	0.9 °C 0.39 °C 0.62 °C 0.26 °C 0.18 °C	Kuwait
116	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type T)	0.59 °C 0.45 °C 0.43 °C	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
117	INCO Calibration Lab – Kuwait	Electrical	Electrical Simulation of Thermocouples – Type U	°C (-100	0.38 °C	Kuwait
118	INCO Calibration Lab – Kuwait	Volume	Laboratory Volumetric Apparatus	to -25	0.003 ml 0.004 ml 0.005 ml 0.012 ml 0.015 ml 0.075 ml 0.15 ml 0.28 ml	Kuwait
119	INCO Calibration Lab – Kuwait	Volume	Piston Operated Volumetric Apparatus)	0.5 µl 0.7 µl 0.9 µl 1.5 µl 1.7 µl 2.6 µl	Kuwait
120	INCO Calibration Lab – Kuwait	Volume	Liquid Flow	°C (-25	0.87 % 1.8 %	Kuwait
121	INCO Calibration Lab – Kuwait	Force	Compression – Load Cell	to	0.3 % F 0.5 % F	Kuwait
122	INCO Calibration Lab – Kuwait	Force	Proving Rings	410	0.09%	Kuwait
123	INCO Calibration Lab – Kuwait	Force	Tension)	0.3 % F	Kuwait
124	INCO Calibration Lab – Kuwait	Force	Hydraulic Jacks	°C	F % 0.3 F % 0.5	Kuwait
125	INCO Calibration Lab – Kuwait	Pressure and Vacuum	Pneumatic Gauges	(410 to 1300) °C (0 to 250) °C (250 to 400) °C (400 to 1000) °C (1000 to 1767) °C	0.0009 bar 0.0026 bar 0.084 bar 0.0022 bar 0.011 bar 0.036 bar	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
126	INCO Calibration Lab – Kuwait	Pressure and Vacuum	Hydraulic Gauges	(-250 to-150) °C (-150 to 120) °C (120 to 400) °C	0.53 bar 2.4 bar	Kuwait
127	INCO Calibration Lab – Kuwait	Pressure and Vacuum	Pneumatic vacuum gauges	(-200 to 600) °C	0.0022 bar 0.011 bar	Kuwait
128	INCO Calibration Lab – Kuwait	Pressure and Vacuum	Hydraulic vacuum gauges	(0.1 to 1) ml (>1 to 5) ml (>5 to 10) ml (>10 to 50) ml (>50 to 100) ml (>100 to 500) ml (>500 to 1000) ml (>1000 to 2000) ml	0.036 bar 2.4 bar	Kuwait
129	INCO Calibration Lab – Kuwait	Thermodynamics	Digital/Dial Thermometer	> (50 to 100) µl > (100 to 300) µl > (300 to 500) µl > (500 to 1000) µl > (1000 to 2000) µl > (2000 to 5000) µl	0.2 °C 0.5 °C 1.2 °C 1.6 °C	Kuwait
130	INCO Calibration Lab – Kuwait	Thermodynamics	Laboratory Ovens, Incubators, Muffle Furnaces, Climatic Chambers (Freezers, Chillers, Refrigerators Autoclave) Profiling at Multiple Internal Chamber Locations ³	Flow Rate (0.5 to 3) m ³ /h Flow Velocity (0.1 to 25 m/s)	0.2 °C 0.5 °C 1.6 °C	Kuwait
131	INCO Calibration Lab – Kuwait	Thermodynamics	Digital/Dial Thermo - Hygrometers and Chart Recorders	200 N to 2000 kN (2000 to 3000) kN	1.3 % RH 0.25 °C	Kuwait
132	INCO Calibration Lab – Kuwait	Thermodynamics	Humidity Climatic Chamber ³ (Freezers, Chillers, Refrigerators)	Up to 50 kN	1.3 % RH 0.25 °C	Kuwait
133	INCO Calibration Lab – Kuwait	Thermodynamics	Liquid-in-Glass Thermometer	200 N to 1000 kN	0.2 °C 0.5 °C	Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
134	INCO Calibration Lab – Kuwait	Time & Frequency	Frequency – Measuring Equipment	200 N to 2000 kN (2000 to 3000) kN	58 mHz 0.28 μHz/Hz + 58 Hz 5.8 Hz 0.28 μHz/Hz + 5.8 Hz	Kuwait
135	INCO Calibration Lab – Kuwait	Time & Frequency	Frequency – Measure	(-1 to 0) bar (0 to 20) bar (20 to 140) bar (-1 to 0) bar (0 to 7) bar (7 to 100) Bar	0.075 μHz/Hz + 60 μHz 0.007 % + 5.6 mHz	Kuwait
136	INCO Calibration Lab – Kuwait	Time & Frequency	Time – Measure	(0 to 2000) bar (0 to 2000) bar	0.01 % + 0.51 s 0.001 % + 0.4 s	Kuwait
137	INCO Calibration Lab – Kuwait	Time & Frequency	Rotational Speed – Optical	(-1 to 0) bar (0 to 7) bar	0.02 % + 0.02 rpm	Kuwait
138	INCO Calibration Lab – Kuwait	Electrical	AC Clamp - Generate Toroidal Types (10 to 16.5) A (16.5 to 150) A (150 to 1025) A	(7 to 100) bar (0 to 2000) bar	0.92%+7.7 mA 0.91%+29 mA 0.97%+43 mA	Kuwait
139	INCO Calibration Lab – Kuwait	Mass	Analytical Laboratory & industrial balances	(-60 to 50) °C (50 to 300) °C (300 to 650) °C (650 to 1100) °C	0.004 mg	Kuwait
140	INCO Calibration Lab – Kuwait	Mass	Weights – Fixed Points	(-60 to 50) °C (50 to 300) °C (300 to 1100) °C		Kuwait

Seq No.	Laboratory	Field	Item	Range	CMC	Location
141	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Liquid-In-Glass Thermometers	-80 °C ≤ T ≤ 5 °C 5 °C < T ≤ 80 °C 80 °C < T ≤ 150 °C 150 °C < T ≤ 250 °C 250 °C < T ≤ 420 °C	0,014 °C 0,016 °C 0,032 °C 0,035 °C 0,040 °C	Gebze
142	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Resistance thermometers (SPRT and PRT)	-38,8344 °C ≤ T ≤ 29,7646 °C (Triple point of mercury, Triple point of water, Gallium melting point) 0,01 °C ≤ T ≤ 29,7646 °C (Triple point of water, Gallium melting point) 0,01 °C ≤ T ≤ 419,527 °C (Triple point of mercury, Triple point of water, Gallium melting point) 0,01 °C ≤ T ≤ 419,527 °C (The freezing point of tin) 0,01 °C ≤ T ≤ 419,527 °C (The freezing point of zinc) 0,01 °C ≤ T ≤ 660,323 °C (Triple point of mercury, Triple point of water, Gallium melting point) 0,01 °C ≤ T ≤ 660,323 °C (The freezing point of tin) 0,01 °C ≤ T ≤ 660,323 °C (The freezing point of zinc) 0,01 °C ≤ T ≤ 660,323 °C (Freezing point of aluminum) 0,01 °C (Triple point of water) -80 °C ≤ T ≤ 5 °C (in water baths) 5 °C < T ≤ 80 °C (in water baths) 80 °C < T ≤ 150 °C (in water baths)	0,003 °C 0,002 °C 0,003 °C 0,004 °C 0,006 °C 0,004 °C 0,005 °C 0,007 °C 0,007 °C 0,001 °C 0,014 °C 0,016 °C 0,032 °C 0,035 °C	Gebze

Seq No.	Laboratory	Field	Item	150 °C < T ≤ 250 °C (in water Range) 250 °C < T ≤ 420 °C (in water baths) -40 °C ≤ T ≤ 155 °C (in block calibrators) 155 °C < T ≤ 700 °C (in block calibrators)	0,10 °C 0,1 °C	Location
143	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Thermocouples	-40 °C ≤ T ≤ 420 °C 100 °C ≤ T ≤ 900 °C 900 °C < T ≤ 1350 °C -40 °C ≤ T ≤ 700 °C	0,2 °C 0,8 °C 1,5 °C 0,7 °C	Gebze
144	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Temperature Gauges	80 °C ≤ T ≤ 5 °C 5 °C < T ≤ 80 °C 80 °C < T ≤ 150 °C 150 °C < T ≤ 250 °C 250 °C < T ≤ 420 °C 50 °C < T ≤ 300 °C 300 °C < T ≤ 500 °C 100 °C ≤ T ≤ 900 °C 900 °C < T ≤ 1350 °C -40 °C ≤ T ≤ 155 °C 155 °C < T ≤ 700 °C	0,014 °C 0,016 °C 0,032 °C 0,035 °C 0,040 °C 1,9 °C 2,8 °C 0,8 °C 1,5 °C 0,1 °C 0,2 °C	Gebze
145	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Dry Block Calibrators	-40 °C ≤ T ≤ 420 °C 100 °C ≤ T ≤ 1100 °C 1100 °C < T ≤ 1350 °C	0,1 °C 0,6 °C 1,0 °C	Gebze
146	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Radiation Thermometers	-40 °C ≤ T ≤ 50 °C 50 °C < T ≤ 550 °C 550 °C < T ≤ 1000 °C	1,0 °C 1,0 °C 2,0 °C	Gebze
147	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Determination of Temperature Distribution in Temperature Controlled Volumes (Sterilizer, Incubator, Oven, Air Conditioning Cabinet, Deep Freezer, Cold Room, Fridge, Water bath)	-40 °C ≤ T ≤ 100 °C 100 °C < T ≤ 250 °C 30 % rh ≤ RH ≤ 90 % rh	0,7 °C 1,0 °C 3 % rh	Gebze (On-site calibration)

Seq No.	Laboratory	Field	Item	Range	CMC	Location
148	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Temperature Indicator or Electrical Temperature Simulator (Measuring mode)	$0^{\circ}\text{C} \leq T \leq 1820^{\circ}\text{C}$ (Type B) $-50^{\circ}\text{C} \leq T \leq 1760^{\circ}\text{C}$ (Type S) $-50^{\circ}\text{C} \leq T \leq 1760^{\circ}\text{C}$ (Type R) $-270^{\circ}\text{C} \leq T \leq 1370^{\circ}\text{C}$ (Type K) $-210^{\circ}\text{C} \leq T \leq 1200^{\circ}\text{C}$ (Type J) $-270^{\circ}\text{C} \leq T \leq 1300^{\circ}\text{C}$ (Type N) $-270^{\circ}\text{C} \leq T \leq 1000^{\circ}\text{C}$ (Type E) $-270^{\circ}\text{C} \leq T \leq 400^{\circ}\text{C}$ (Type T) $-200^{\circ}\text{C} \leq T \leq 650^{\circ}\text{C}$ (Pt 100)	0,7 °C 0,5 °C 0,5 °C 0,2 °C 0,1 °C 0,2 °C 0,1 °C 0,1 °C 0,05 °C	Gebze
149	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Ash Furnace	$100^{\circ}\text{C} \leq T \leq 900^{\circ}\text{C}$ $900^{\circ}\text{C} < T \leq 1200^{\circ}\text{C}$	3,0 °C 4,0 °C	Gebze
150	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Electrical Temperature Simulator (Source Mode)	$0^{\circ}\text{C} \leq t \leq 1820^{\circ}\text{C}$ (Type B) $-50^{\circ}\text{C} \leq t \leq 1760^{\circ}\text{C}$ (Type S) $-50^{\circ}\text{C} \leq t \leq 1760^{\circ}\text{C}$ (Type R) $-270^{\circ}\text{C} \leq t \leq 1370^{\circ}\text{C}$ (Type K) $-210^{\circ}\text{C} \leq t \leq 1200^{\circ}\text{C}$ (Type J) $-270^{\circ}\text{C} \leq t \leq 1300^{\circ}\text{C}$ (Type N) $-270^{\circ}\text{C} \leq t \leq 1000^{\circ}\text{C}$ (Type E) $-270^{\circ}\text{C} \leq t \leq 400^{\circ}\text{C}$ (Type T) $-200^{\circ}\text{C} \leq t \leq 650^{\circ}\text{C}$ (Pt100)	0,7 °C 0,5 °C 0,5 °C 0,2 °C 0,1 °C 0,2 °C 0,1 °C 0,1 °C 0,02 °C	Gebze
151	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Temperature gauge with display	0°C $-40^{\circ}\text{C} \leq t \leq 90^{\circ}\text{C}$ $-25^{\circ}\text{C} \leq t \leq 150^{\circ}\text{C}$ $150^{\circ}\text{C} \leq t \leq 660^{\circ}\text{C}$ ice point water / alcohol bath Block Calibrator (using external reference resistance thermometer) Block Calibrator	33 m°C 0,04 °C 0,30 °C 0,80 °C	Gebze, Bursa - Comparison Method
152	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Determination of Temperature Distribution in Temperature Controlled Volumes	$-40^{\circ}\text{C} \leq t \leq 250^{\circ}\text{C}$	0,86 °C	Gebze, Bursa

Seq No.	Laboratory	Field	Item	Range	CMC	Location
153	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Relative Humidity	Relative Humidity Meter (Analog and digital temperature / humidity meters, Hygrometers, Relative Humidity Generator, Thermography, etc.)	9,0 % rh ≤ RH ≤ 10,0 % rh 10,0 % rh < RH ≤ 15,0 % rh 15,0 % rh < RH ≤ 40,0 % rh 40,0 % rh < RH ≤ 50,0 % rh 50,0 % rh < RH ≤ 75,0 % rh 75,0 % rh < RH ≤ 95,0 % rh	0,22 % rh 0,36 % rh 0,54 % rh 0,65 % rh 0,90 % rh 1,15 % rh	Gebze (On-site or in laboratory)
154	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Relative Humidity	Analog and Digital Temperature / Humidity Meters Thermography etc. Relative Humidity Generator Temperature	0 °C ≤ T ≤ 70 °C -40 °C ≤ T ≤ 250 °C	0,22 °C 1,30 °C	Gebze (On-site or in laboratory)
155	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Relative Humidity	Wood Moisture Meter	3,0 % mc ≤ MC ≤ 35,5 % mc	1,75 % mc	Gebze
156	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Pressure	Relative Pressure Analog and Digital Pressure Gauges, Pressure Calibrator, Pressure Transducer/Transmitter, U Manometer, Differential Manometer, Manometer, Barometer etc.	100 Pa ≤ p ≤ 2,5 kPa 2,5 kPa < p < 5 kPa	0,8 Pa 2 Pa	Gebze (On-site or in laboratory)
157	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Pressure	Relative / Absolute Pressure Analog and Digital Pressure Gauges, Pressure Calibrator, Pressure Transducer/Transmitter, U Manometer, Differential Manometer, Manometer, Barometer etc.	5 kPa ≤ p ≤ 350 kPa 0,35 MPa < p ≤ 7 MPa	4 · 10 ⁻⁵ · p 5 · 10 ⁻⁵ · p +1,5 Pa	Gebze (On-site or in laboratory)
158	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Pressure	Relative / Absolute Pressure Analog and Digital Pressure Gauges, Pressure Calibrator, Pressure Transducer/ Transmitter, U Manometer, Differential Manometer, Manometer, Barometer	0,4 MPa ≤ p ≤ 160 MPa	4 · 10 ⁻⁵ · p +200 Pa	Gebze (On-site or in laboratory)
159	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Voltage U Source Calibration	100μV ≤ U < 200mV 200 mV ≤ U < 2 V 2 V ≤ U < 20 V 20 V ≤ U < 200 V 200 V ≤ U ≤ 1000 V	2 · 10 ⁻⁵ · U 5 · 10 ⁻⁶ · U 5 · 10 ⁻⁶ · U 7 · 10 ⁻⁶ · U 7 · 10 ⁻⁶ · U	Gebze, Ankara, Bursa
160	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Current I Source Calibration	100μA ≤ I < 200μA 200 μA ≤ I < 2mA 2mA ≤ I < 20 mA 20 mA ≤ I < 200mA 200 mA ≤ I < 2 A 2 A ≤ I ≤ 20 A	3 · 10 ⁻⁵ · I 3 · 10 ⁻⁵ · I 3 · 10 ⁻⁵ · I 5 · 10 ⁻⁵ · I 2 · 10 ⁻⁴ · I 5 · 10 ⁻⁴ · I	Gebze, Ankara, Bursa

Seq No.	Laboratory	Field	Item	Range	CMC	Location
161	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Resistance R 4 - Point Resistance Calibration	100 $\mu\Omega$ 1 m Ω 10 m Ω 100 m Ω	1 . 10-3 . R 2 . 10-4 . R 2 . 10-4 . R 2 . 10-4 . R	Gebze, Ankara, Bursa
162	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Resistance R Resistance Calibration	10 m Ω \leq R < 2 Ω 2 Ω \leq R < 20 Ω 20 Ω \leq R < 200 Ω 200 Ω \leq R < 2 k Ω 2 k Ω \leq R < 20 k Ω 20 k Ω \leq R < 200 k Ω 200 k Ω \leq R < 2 M Ω 2 M Ω \leq R < 20 M Ω 20M Ω \leq R < 200M Ω 200 M Ω \leq R \leq 1 G Ω 10 m Ω \leq R < 2 Ω 2 Ω \leq R < 20 Ω 20 Ω \leq R < 200 Ω 200 Ω \leq R < 2 k Ω 2 k Ω \leq R < 20 k Ω 20 k Ω \leq R < 200 k Ω 200 k Ω \leq R < 2 M Ω 2 M Ω \leq R < 20 M Ω 20M Ω \leq R < 200M Ω 200 M Ω \leq R \leq 1 G Ω 2 M Ω \leq R < 20 M Ω 20M Ω \leq R < 200M Ω 200 M Ω \leq R \leq 1 G Ω	5 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 4 · 10-5 · R 3 · 10-4 · R 3 · 10-3 · R 5 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 2 · 10-5 · R 1,5 · 10-4 · R 3 · 10-3 · R 3 · 10-3 · R 5 · 10-5 · R 5 · 10-4 · R 5 · 10-3 · R	Gebze, Ankara, Bursa

Seq No.	Laboratory	Field	Item	Range	CMC	Location
163	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	AC Voltage U Source Calibration	$10\text{mV} \leq U < 200\text{mV}$ $10\text{mV} \leq U < 200\text{mV}$ $10\text{mV} \leq U < 200\text{mV}$ $200\text{mV} \leq U < 2\text{V}$ $200\text{mV} \leq U < 2\text{V}$ $200\text{mV} \leq U < 2\text{V}$ $200\text{mV} \leq U < 2\text{V}$ $200\text{mV} \leq U < 2\text{V}$ $2\text{V} \leq U < 20\text{V}$ $2\text{V} \leq U < 20\text{V}$ $2\text{V} \leq U < 20\text{V}$ $2\text{V} \leq U < 20\text{V}$ $2\text{V} \leq U < 20\text{V}$ $20\text{V} \leq U < 200\text{V}$ $20\text{V} \leq U < 200\text{V}$ $20\text{V} \leq U < 200\text{V}$ $200\text{V} \leq U \leq 1000\text{V}$ $200\text{V} \leq U \leq 1000\text{V}$	$2 \cdot 10^{-4} \cdot U$ $5 \cdot 10^{-4} \cdot U$ $1 \cdot 10^{-3} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $3 \cdot 10^{-4} \cdot U$ $8 \cdot 10^{-4} \cdot U$ $6 \cdot 10^{-3} \cdot U$ $4 \cdot 10^{-2} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $3 \cdot 10^{-4} \cdot U$ $8 \cdot 10^{-4} \cdot U$ $6 \cdot 10^{-3} \cdot U$ $4 \cdot 10^{-2} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $3 \cdot 10^{-4} \cdot U$ $8 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $3 \cdot 10^{-4} \cdot U$	Gebze, Ankara, Bursa
164	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	AC Current I Source Calibration	$200\text{ }\mu\text{A} \leq I < 2\text{ mA}$ $200\text{ }\mu\text{A} \leq I < 2\text{ mA}$ $200\text{ }\mu\text{A} \leq I < 2\text{ mA}$ $2\text{ mA} \leq I < 20\text{ mA}$ $2\text{ mA} \leq I < 20\text{ mA}$ $2\text{ mA} \leq I < 20\text{ mA}$ $20\text{ mA} \leq I < 200\text{ mA}$ $20\text{ mA} \leq I < 200\text{ mA}$ $20\text{ mA} \leq I < 200\text{ mA}$ $200\text{ mA} \leq I < 2\text{ A}$ $200\text{ mA} \leq I < 2\text{ A}$ $200\text{ mA} \leq I < 2\text{ A}$ $2\text{ A} \leq I \leq 20\text{ A}$ $2\text{ A} \leq I \leq 20\text{ A}$	$6 \cdot 10^{-4} \cdot I$ $1 \cdot 10^{-3} \cdot I$ $5 \cdot 10^{-3} \cdot I$ $6 \cdot 10^{-4} \cdot I$ $1 \cdot 10^{-3} \cdot I$ $5 \cdot 10^{-3} \cdot I$ $8 \cdot 10^{-4} \cdot I$ $1 \cdot 10^{-3} \cdot I$ $5 \cdot 10^{-3} \cdot I$ $1 \cdot 10^{-3} \cdot I$ $1 \cdot 10^{-3} \cdot I$ $4 \cdot 10^{-3} \cdot I$ $1,2 \cdot 10^{-3} \cdot I$ $3 \cdot 10^{-3} \cdot I$	Gebze, Ankara, Bursa
165	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Voltage U Calibration of Measuring Instruments	$100\text{ }\mu\text{V} \leq U < 220\text{ mV}$ $220\text{ mV} \leq U < 2,2\text{ V}$ $2,2\text{ V} \leq U < 11\text{ V}$ $11\text{ V} \leq U < 22\text{ V}$ $22\text{ V} \leq U < 220\text{ V}$ $220\text{ V} \leq U \leq 1000\text{ V}$	$1,5 \cdot 10^{-5} \cdot U$ $1 \cdot 10^{-5} \cdot U$ $1,2 \cdot 10^{-5} \cdot U$ $1 \cdot 10^{-5} \cdot U$ $1 \cdot 10^{-5} \cdot U$ $1 \cdot 10^{-5} \cdot U$	Gebze, Ankara, Bursa

Seq No.	Laboratory	Field	Item	Range	CMC	Location
166	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Current I Calibration of Measuring Instruments	$2,2 A \leq I < 3 A$ $3 A \leq I < 11 A$ $11 A \leq I \leq 20 A$	1 . 10-3 . I 1 . 10-3 . I 1 . 10-3 . I	Gebze, Ankara, Bursa
167	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Current I Calibration of Measuring Instruments	$20 A \leq I \leq 1000 A$	1 . 10-2 . I	Gebze, Ankara
168	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Resistance R Resistance Measurement Instruments Calibration	$100 \mu\Omega$ $1 m\Omega$ $10 m\Omega$ $100 m\Omega$ 1Ω 10Ω 100Ω $1 k\Omega$ $10 k\Omega$ $100 k\Omega$ 1Ω $1,9 \Omega$ 10Ω 19Ω 100Ω 190Ω $1 k\Omega$ $1,9 k\Omega$ $10 k\Omega$ $19 k\Omega$ $100 k\Omega$ $190 k\Omega$ $1 M\Omega$ $1,9 M\Omega$ $10 M\Omega$ $19 M\Omega$	1 . 10-3 . R 3 . 10-4 . R 3 . 10-4 . R 1 . 10-4 . R 5 . 10-5 . R 5 . 10-5 . R 5 . 10-5 . R 5 . 10-5 . R 5 . 10-5 . R 5 . 10-5 . R 5 . 10-5 . R 1 . 10-4 . R 2 . 10-4 . R 2 . 10-4 . R 5 . 10-5 . R 4 . 10-5 . R 2 . 10-5 . R 2 . 10-5 . R 2 . 10-5 . R 2 . 10-5 . R 2 . 10-5 . R 2 . 10-5 . R 2 . 10-5 . R 2 . 10-5 . R 3 . 10-5 . R 3 . 10-5 . R 5 . 10-5 . R 6 . 10-5 . R	Gebze, Ankara, Bursa

Seq No.	Laboratory	Field	Item	Range	CMC	Location
169	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Resistance R Resistance Measurement Instruments Calibration	$1 \Omega \leq R < 11 \Omega$ $11 \Omega \leq R < 33 \Omega$ $33 \Omega \leq R < 110 \Omega$ $110 \Omega \leq R < 330 \Omega$ $330 \Omega \leq R < 1,1 \text{ k}\Omega$ $1,1 \text{ k}\Omega \leq R < 3,3 \text{ k}\Omega$ $3,3 \text{ k}\Omega \leq R < 11 \text{ k}\Omega$ $11 \text{ k}\Omega \leq R < 33 \text{ k}\Omega$ $33 \text{ k}\Omega \leq R < 110 \text{ k}\Omega$ $110 \text{ k}\Omega \leq R < 330 \text{ k}\Omega$ $330 \text{ k}\Omega \leq R < 1,1 \text{ M}\Omega$ $1,1 \text{ M}\Omega \leq R < 3,3 \text{ M}\Omega$ $3,3 \text{ M}\Omega \leq R < 11 \text{ M}\Omega$ $11 \text{ M}\Omega \leq R < 33 \text{ M}\Omega$ $33 \text{ M}\Omega \leq R < 110 \text{ M}\Omega$ $110 \text{ M}\Omega \leq R < 330 \text{ M}\Omega$	$2 \cdot 10^{-4} \cdot R + 1 \text{ m}\Omega$ $2 \cdot 10^{-4} \cdot R$ $1 \cdot 10^{-4} \cdot R$ $6 \cdot 10^{-5} \cdot R$ $6 \cdot 10^{-5} \cdot R$ $6 \cdot 10^{-5} \cdot R$ $6 \cdot 10^{-5} \cdot R$ $6 \cdot 10^{-5} \cdot R$ $6 \cdot 10^{-5} \cdot R$ $8 \cdot 10^{-5} \cdot R$ $6 \cdot 10^{-5} \cdot R$ $1,5 \cdot 10^{-4} \cdot R$ $2 \cdot 10^{-4} \cdot R$ $8 \cdot 10^{-4} \cdot R$ $8 \cdot 10^{-4} \cdot R$ $6 \cdot 10^{-3} \cdot R$	Gebze, Ankara, Bursa
170	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	Insulation Resistance Measuring Instruments / High Resistance Measuring Instruments Calibration	$1 \text{ M}\Omega \leq R < 1 \text{ G}\Omega$ $1 \text{ G}\Omega \leq R < 10 \text{ G}\Omega$ $10 \text{ G}\Omega \leq R \leq 100 \text{ G}\Omega$	$1,5 \cdot 10^{-3} \cdot R$ $2,5 \cdot 10^{-3} \cdot R$ $3,5 \cdot 10^{-3} \cdot R$	Gebze, Ankara
171	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	Earth Resistance Tester	$10 \text{ m}\Omega \leq R < 4 \Omega$ $4 \Omega \leq R \leq 100 \text{ k}\Omega$	$0,7 \text{ m}\Omega$ $2 \cdot 10^{-4} \cdot R$	Gebze, Ankara
172	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	AC Current I Calibration of Measuring Instruments	$2,2 \text{ A} \leq I < 3 \text{ A}$ $3 \text{ A} \leq I < 11 \text{ A}$ $11 \text{ A} \leq I \leq 20 \text{ A}$	$2 \cdot 10^{-3} \cdot I$ $2 \cdot 10^{-3} \cdot I$ $2 \cdot 10^{-3} \cdot I$	Gebze, Ankara

Seq No.	Laboratory	Field	Item	Range	CMC	Location
173	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	AC Voltage U Calibration of Measuring Instruments	$2,2 \text{ mV} \leq U < 22 \text{ mV}$ $2,2 \text{ mV} \leq U < 22 \text{ mV}$ $2,2 \text{ mV} \leq U < 22 \text{ mV}$ $2,2 \text{ mV} \leq U < 22 \text{ mV}$ $2,2 \text{ mV} \leq U < 22 \text{ mV}$ $2,2 \text{ mV} \leq U < 22 \text{ mV}$ $2,2 \text{ mV} \leq U < 22 \text{ mV}$ $2,2 \text{ mV} \leq U < 22 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$ $22 \text{ mV} \leq U < 220 \text{ mV}$	$6 \cdot 10^{-3} \cdot U$ $1 \cdot 10^{-3} \cdot U$ $1 \cdot 10^{-3} \cdot U$ $1 \cdot 10^{-3} \cdot U$ $2 \cdot 10^{-3} \cdot U$ $5 \cdot 10^{-3} \cdot U$ $5 \cdot 10^{-3} \cdot U$ $5 \cdot 10^{-3} \cdot U$ $1 \cdot 10^{-3} \cdot U$ $5 \cdot 10^{-4} \cdot U$ $5 \cdot 10^{-4} \cdot U$ $5 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-3} \cdot U$ $2 \cdot 10^{-3} \cdot U$ $2 \cdot 10^{-3} \cdot U$ $5 \cdot 10^{-3} \cdot U$	Gebze, Ankara, Bursa
174	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	AC Voltage U Calibration of Measuring Instruments	$220 \text{ mV} \leq U < 2,2 \text{ V}$ $220 \text{ mV} \leq U < 2,2 \text{ V}$ $220 \text{ mV} \leq U < 2,2 \text{ V}$ $220 \text{ mV} \leq U < 2,2 \text{ V}$ $220 \text{ mV} \leq U < 2,2 \text{ V}$ $220 \text{ mV} \leq U < 2,2 \text{ V}$ $220 \text{ mV} \leq U < 2,2 \text{ V}$ $220 \text{ mV} \leq U < 2,2 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $2,2 \text{ V} \leq U < 22 \text{ V}$ $22 \text{ V} \leq U < 220 \text{ V}$ $22 \text{ V} \leq U < 220 \text{ V}$ $22 \text{ V} \leq U < 220 \text{ V}$ $22 \text{ V} \leq U < 220 \text{ V}$ $22 \text{ V} \leq U < 220 \text{ V}$ $22 \text{ V} \leq U < 220 \text{ V}$ $22 \text{ V} \leq U < 220 \text{ V}$	$1 \cdot 10^{-3} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $6 \cdot 10^{-4} \cdot U$ $6 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-3} \cdot U$ $5 \cdot 10^{-3} \cdot U$ $1 \cdot 10^{-3} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $1 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $3 \cdot 10^{-4} \cdot U$ $6 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-3} \cdot U$ $5 \cdot 10^{-3} \cdot U$ $1 \cdot 10^{-3} \cdot U$ $2 \cdot 10^{-4} \cdot U$ $1 \cdot 10^{-4} \cdot U$ $5 \cdot 10^{-4} \cdot U$ $6 \cdot 10^{-4} \cdot U$ $2 \cdot 10^{-4} \cdot U$	Gebze, Ankara, Bursa

Seq No.	Laboratory	Field	Item	Range	CMC	Location
175	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	DC Power P Calibration of DC Power Meters	$0,1 \text{ W} \leq P \leq 20 \text{ kW}$	$1,2 \cdot 10^{-3} \cdot P$	Gebze, Ankara
176	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	AC Power P AC Power Measurement Calibration Active Power Three Phase Reactive Power Three Phase Active Energy Three Phase AC Energy Reactive Energy Three Phase	$0,1 \text{ W} \leq P \leq 20 \text{ kW}$ 0 W-36000 W 0 W-36000 Var 500 mWs-3000Ws 500 mVars-3000 Vars	$2 \cdot 10^{-3} \cdot P$ $0,15 \cdot 10^{-3}$ $0,15 \cdot 10^{-3}$ $0,20 \cdot 10^{-3}$ $0,20 \cdot 10^{-3}$	Gebze, Ankara
177	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	Oscilloscope Calibration Horizontal Deflection	$2 \text{ ns} \leq t \leq 50 \text{ ms}$ $0,1 \text{ s} \leq t \leq 0,5 \text{ s}$ $1 \text{ s} \leq t \leq 5 \text{ s}$	$6 \cdot 10^{-4} \cdot t$ $1 \cdot 10^{-3} \cdot t$ $5 \cdot 10^{-3} \cdot t$	Gebze, Ankara

Seq No.	Laboratory	Field	Item	Range	CMC	Location
178	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	Oscilloscope Calibration Vertical deflection	$5 \text{ mV} \leq U \leq 100 \text{ V}$	2,5 . 10-3 . UPP + 100 μ V	Gebze, Ankara
179	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Electrical	Oscilloscope Calibration Vertical deflection	$5 \text{ mV} \leq U \leq 5 \text{ V}$	3 . 10-3 . UPP + 100 μ V	Gebze, Ankara
180	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Time & Frequency	Frequency Meters Frequency Counter	$10 \text{ kHz} \leq f \leq 20 \text{ GHz}$ $10 \text{ kHz} \leq f \leq 20 \text{ GHz}$	1,55 . r 4,0-10-11 . f + r	Gebze, Ankara
181	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Time & Frequency	Frequency Meters Optical Tachometer	$60 \text{ rpm} \leq \omega < 99999 \text{ rpm}$	3,0-10-6 . ω + r rpm	Gebze, Ankara
182	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Time & Frequency	Frequency Sources Frequency Generator	$1 \text{ Hz} \leq f \leq 26,5 \text{ GHz}$ $1 \text{ Hz} \leq f < 30 \text{ kHz}$ $30 \text{ kHz} \leq f < 300 \text{ MHz}$ $300 \text{ MHz} \leq f < 14 \text{ GHz}$ $14 \text{ GHz} \leq f \leq 26,5 \text{ GHz}$	1,55 . r 2,0-10-6 Hz 3,0-10-10 . f 3,0-10-11 . f 1 Hz	Gebze, Ankara
183	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Time & Frequency	Chronometer, Stopwatch	$-30,00 \text{ s/day} \leq t \leq +30,00 \text{ s/day}$ $1 \text{ s} < t \leq 28800 \text{ s}$	0,04 s/day 0,100 s	Gebze, Ankara
184	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Time & Frequency	Inductance Meters LCR Meters: Inductance	100 μ H 1 mH 10 mH 100 mH 1 H	1,5 . 10-3 . L 8 . 10-4 . L 8 . 10-4 . L 8 . 10-4 . L 8 . 10-4 . L	Gebze, Ankara
185	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Time & Frequency	Capacitance Meters LCR Meters: Capacitance	1 nF 10 nF 100 nF 1 μ F	6 . 10-3 . C 1 . 10-3 . C 7 . 10-4 . C 7 . 10-4 . C	Gebze, Ankara
186	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Thermal	Industrial Resistance Thermometer	0 $^{\circ}$ C $-40 \text{ }^{\circ}\text{C} \leq t \leq 90 \text{ }^{\circ}\text{C}$ $-25 \text{ }^{\circ}\text{C} \leq t \leq 150 \text{ }^{\circ}\text{C}$ $150 \text{ }^{\circ}\text{C} \leq t \leq 660 \text{ }^{\circ}\text{C}$	33 m $^{\circ}$ C 0,04 $^{\circ}$ C 0,30 $^{\circ}$ C 0,82 $^{\circ}$ C	Gebze, Bursa - Comparison Method

Seq No.	Laboratory	Field	Item	Range	CMC	Location
187	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Relative Humidity	Dew Point Meter	-10,00 °C FP ≤ T < 0,00 °C DP 0,00 °C DP ≤ T ≤ 60,00 °C DP	0,88 °C DP/FP 0,50 °C DP	Gebze (On-site or in laboratory)
188	Turkish Standards Institution Laboratories (TSE) Calibration - Turkey	Pressure	Relative / Negative (Vacuum) Relative Pressure Analog and Digital Pressure Gauges, Pressure Calibrator, Pressure Transducer/Transmitter, U Manometer, Differential Manometer, Manometer, Barometer etc.	7 MPa < p ≤ 13,5 MPa -95 kPa ≤ p ≤ -5 kPa	4 · 10 ⁻⁵ · p + 50 Pa 4 · 10 ⁻⁵ · p	Gebze (On-site or in laboratory)
189	METROMAC	Pressure	Pneumatic pressure gauge	0.001 to 3.5 bar 0.01bar to 100 bar	0.02%+ 0.6mbar 0.02%+ 6.6mbar	Doha
190	METROMAC	Pressure	Hydraulic pressure gauge	6 bar to 60 bar 60 bar to 1400 bar 100 bar to 1000 bar	0.008 bar 0.018 bar 0.31 bar	Doha
191	METROMAC	Thermal	Glass thermometer	-5 to 130°C 130°C to 400°C	0.4°C 1.2°C	Doha
192	METROMAC	Thermal	Prop thermometer, switch gauge, transmitter	-20°C to 150°C	0.054°C	Doha
193	METROMAC	Thermal	Ovens freezers Fridge incubators	-30 °C to 20°C 20° to 100°C	1.1°C 1°C	Doha
194	METROMAC	Thermal	Oven profiling	25°C to 100°C 100°C to 150°C 150° to 250°C	1.2°C 1.3°C 1.4°C	Doha
195	METROMAC	Thermal	Liquid baths	-30°C to 250°C	1.2°C	Doha
196	METROMAC	Thermal	Muffle furnaces	100 to 850°C 850 to 1100°C	2.7°C 4°C	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
197	METROMAC	Thermal	Hygrometer	10% RH to 95% RH 10°C to 70°C	1.2% RH 0.5°C	Doha
198	METROMAC	Dimensional	Calipers	0 to 25 mm 0 to 300 mm 0 to 600 mm	2.9 μm 15 μm 30 μm	Doha
199	METROMAC	Dimensional	Micrometers	0 to 25 mm 25 to 50 mm 50 to 75 mm 75 to 100 mm	2.3 μm 2.7 μm 2.9 μm 3.5 μm	Doha
200	METROMAC	Dimensional	Thickness gauge Feeler gauge	0 to 1 mm	1.2 μm	Doha
201	METROMAC	Time & Frequency	Stopwatch/timer	0 to 30 min	0.7 sec	Doha
202	METROMAC	Time & Frequency	Rotational speed/ Tachometer	0 to 5000 rpm	1.6 rpm	Doha
203	METROMAC	Electrical	DC voltage generate	3 mV to 329.9999mV 0.33 V to 3.299999V 3.3 V to 32.99999V 33 V to 329.9999V 330 V to 900V	14*10 ⁻⁶ +1.9 μV 7.2*10 ⁻⁶ +2.7 μV 8*10 ⁻⁶ +16 μV 12*10 ⁻⁶ +0.16 mV 12*10 ⁻⁶ +1.2mV	Doha
204	CALIBRATION LAB	Mass	Weighing scales	1 mg to 50g 50g to 200g 200g to 1000g 1kg to 20kg 20 to 200 kg	0.04mg 0.07 mg 0.006 g 0.06 g 11g	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
205	CALIBRATION LAB	Mass	OIML Masses	1mg 2mg 5mg 10mg 20mg 50mg 100mg 200mg 500mg 1g 2g 5g 10g 20g 50g 100g 200g 500g 1kg 2kg 5kg 10kg 20kg	0.058 mg	Doha
206	CALIBRATION LAB	Pressure	Pneumatic pressure gauge	0 to 200 bar		Doha
207	CALIBRATION LAB	Pressure	Hydraulic pressure gauge	0 to 700 bar	0.058 mg	Doha
208	CALIBRATION LAB	Thermal	Non - contact surface thermometer / IR thermometer	35 °C to 330		Doha
209	CALIBRATION LAB	Thermal	Contact type thermometer	°C	0.058 mg	Doha
210	CALIBRATION LAB	Thermal	Ovens freezers Fridge incubators			Doha
211	CALIBRATION LAB	Thermal	Liquid baths	330 °C to 500	0.058 mg	Doha
212	CALIBRATION LAB	Thermal	Muffle furnaces	°C		Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
213	CALIBRATION LAB	Thermal	Hygrometer	-30°C to 150°C 150°C to 1200°C	0.058 mg	Doha
214	CALIBRATION LAB	Dimensional	Calipers	-30°C to 250°C		Doha
215	CALIBRATION LAB	Dimensional	Micrometers	-35°C to 200°C	0.058 mg	Doha
216	CALIBRATION LAB	Dimensional	Height gageslength Dial Digital Vernier	600°C to 1200°C		Doha
217	CALIBRATION LAB	Electrical	DC voltage generate	10 %RH to 95	0.058 mg	Doha
218	CALIBRATION LAB	Electrical	DC voltage measure	%RH @18 °C to 23		Doha
219	CALIBRATION LAB	Electrical	Resistance measure	°C	0.058 mg	Doha
220	CALIBRATION LAB	Dimensional	Length standard - Metal tape measure			Doha
221	CALIBRATION LAB	Thermal	DRYBLOCK / Temperature Bath	-40 °C to 70	0.058 mg	Doha
222	CALIBRATION LAB	Electrical	DC Current Source	°C		Doha
223	CALIBRATION LAB	Electrical	DC Current Measure	0.058 mg	Doha	
224	CALIBRATION LAB	Thermal	Thermocouples Type E			Doha
225	CALIBRATION LAB	Thermal	Thermocouples Type J		0.058 mg	Doha
226	CALIBRATION LAB	Thermal	Thermocouples Type T	Up to 150 mm		Doha
227	CALIBRATION LAB	Thermal	Thermocouples Type S	Up to 25 mm	0.01 mg	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
228	CALIBRATION LAB	Thermal	Thermocouples Type N	0 V to 329.9999 mV 0.33 V to 3.299999 V 3.3 V to 32.99999 V 33 V to 329.9999 V 330 V to 1020 V		Doha
229	CALIBRATION LAB	Thermal	Thermocouples RTD	0 V to 100mV 0.1 V to 1 V 1 V to 10 V 10 V to 100V 100 V to 1000 V	0.058 mg	
230	CALIBRATION LAB	Dimensional	Feeler Gauge/Thickness gauge	1Ω to 100Ω 0.1 kΩ to 1kΩ 1 kΩ to 100kΩ 0.1 MΩ to 1 MΩ 1MΩ to 10MΩ 10 MΩ to 100 MΩ 0.1 GΩ to 1GΩ		Doha
231	CALIBRATION LAB	Dimensional	Test Sieve	up to 50m	0.058 mg	Doha
232	CALIBRATION LAB	Dimensional	Coating Thickness Tester (Elcometer, ferrous and non-ferrous)	-35 °C to 200		Doha
233	CALIBRATION LAB	Dimensional	Length Measurement	°C	0.058 mg	Doha
234	CALIBRATION LAB	Force	Compression / Tension machines			Doha
235	CALIBRATION LAB	Pressure	Vacuum gauges	200 °C to 600	0.12 mg 0.14 mg	Doha
236	CALIBRATION LAB	Time & Frequency	Rotational speed	°C		Doha
237	CALIBRATION LAB	Time & Frequency	Frequency Measure		0.98 mg	Doha
238	CALIBRATION LAB	Time & Frequency	Tachometer			Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
239	CALIBRATION LAB	Time & Frequency	Stopwatch	0 A to 32.9999 mA	1 mg	Doha
240	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Voltage measuring device < 1100 V	100 μ V \leq U \leq 1 mV 1 mV \leq U < 9,9mV 10 mV \leq U < 329,9mV 3,3 V \leq U < 32,9 V 33 \leq U \leq 329,9 V 330 \leq U < 1000 V	3,5 · 10-2 · U 4,3 · 10-3 · U 4,8 · 10-4 · U 8,6 · 10-5 · U 8,7 · 10-5 · U 9,2 · 10-5 · U 8,2 · 10-5 · U	Kayseri
241	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Voltage source device < 1100 V	100 μ V \leq U \leq 1 mV 1 mV \leq U < 200 mV 0,2 mV \leq U < 2 V 2 V \leq U < 20 V 20 V \leq U < 200 V 200 V \leq U < 1000 V	5,0 · 10-2 · U 2,1 · 10-3 · U 3,1 · 10-5 · U 2,4 · 10-5 · U 5,2 · 10-5 · U 3,4 · 10-5 · U	Kayseri
242	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Current measuring devices	0,1 mA \leq / < 3,29 mA 3,3 mA \leq / < 32,9 mA 33 mA \leq / < 32,9 mA 0,3 A \leq / < 2,19 A 2,2 A \leq / < 10 A 10 A \leq / < 16,49 A 16,5 A \leq / < 149,9 A 150 A \leq / < 550 A	1, 5 · 10-3 · I 4, 8 · 10-4 · I 4, 6 · 10-4 · I 2, 1 · 10-3 · I 1, 8 · 10-3 · I 8, 1 · 10-3 · I 1, 6 · 10-2 · I 1, 0 · 10-2 · I	Kayseri
243	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Current source devices	0,1 mA \leq / < 2 mA 2 mA \leq / < 20 mA 20 mA \leq / < 200 mA 0,2 A \leq / < 2 A 2 A \leq / < 11 A 10 A \leq / < 50 A 50 A \leq / < 1000 A	8, 7 · 10-4 · I 6, 4 · 10-4 · I 6, 7 · 10-4 · I 1, 1 · 10-3 · I 2, 7 · 10-2 · I 8, 2 · 10-2 · I 3, 8 · 10-2 · I	Kayseri

Seq No.	Laboratory	Field	Item	Range	CMC	Location
244	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Resistance Measuring device	$1 \Omega \leq R \leq 11 \Omega$ $11 \Omega \leq R \leq 33 \Omega$ $110 \Omega \leq R \leq 330 \Omega$ $330 \Omega \leq R \leq 1,1 \Omega$ $1,1k\Omega \leq R \leq 3,3 k\Omega$ $3,3k \Omega \leq R \leq 11 k\Omega$ $11k\Omega \leq R \leq 33 k\Omega$ $33k\Omega \leq R \leq 110 k\Omega$ $110 k\Omega \leq R \leq 330 k\Omega$ $330 k\Omega \leq R \leq 1,1 k\Omega$ $1,1k\Omega \leq R \leq 3,3 M\Omega$ $1,1 M\Omega \leq R \leq 3,3 M\Omega$	$1,6 \cdot 10^{-2} \cdot R$ $2,1 \cdot 10^{-3} \cdot R$ $3,1 \cdot 10^{-4} \cdot R$ $2,9 \cdot 10^{-4} \cdot R$ $5,0 \cdot 10^{-4} \cdot R$ $2,1 \cdot 10^{-4} \cdot R$ $5,2 \cdot 10^{-4} \cdot R$ $2,4 \cdot 10^{-4} \cdot R$ $5,4 \cdot 10^{-4} \cdot R$ $3,3 \cdot 10^{-4} \cdot R$ $9,7 \cdot 10^{-4} \cdot R$ $1,5 \cdot 10^{-3} \cdot R$	Kayseri
245	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Resistance Measuring device $1 < G \Omega$	$120 \mu\Omega$ $500 \mu\Omega$ $1M\Omega \leq R \leq 5 M\Omega$ $5M\Omega \leq R \leq 20 M\Omega$ $20 M\Omega \leq R \leq 500 M\Omega$ $0,5 \Omega \leq R \leq 10 M\Omega$ $10 \Omega \leq R \leq 100 M\Omega$ $100 \Omega \leq R \leq 100 M\Omega$ $1 M\Omega \leq R \leq 1 G\Omega$	$7,7 \cdot 10^{-3} \cdot R$ $5,9 \cdot 10^{-3} \cdot R$ $1,1 \cdot 10^{-3} \cdot R$ $7,5 \cdot 10^{-4} \cdot R$ $6,8 \cdot 10^{-4} \cdot R$ $3,7 \cdot 10^{-4} \cdot R$ $6,1 \cdot 10^{-4} \cdot R$ $6,6 \cdot 10^{-4} \cdot R$ $6,5 \cdot 10^{-3} \cdot R$	Kaiseri
246	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Resistance Measuring device	$3,3 M\Omega \leq R \leq 11 M\Omega$ $11 M\Omega \leq R \leq 33 M\Omega$ $33 M\Omega \leq R \leq 110 M\Omega$ $110 M\Omega \leq R \leq 330 M\Omega$	$6,0 \cdot 10^{-3} \cdot R$ $6,5 \cdot 10^{-3} \cdot R$	Kayseri
247	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Voltage source Devices 4- Pin Resistance Calibration	$0,1 M\Omega \leq R \leq 1 M\Omega$ $1 M\Omega \leq R \leq 5 M\Omega$ $5 M\Omega \leq R \leq 20 M\Omega$ $100 M\Omega \leq R \leq 500 M\Omega$ $0,5 M\Omega \leq R \leq 10 M\Omega$	$2,3 \cdot 10^{-3} \cdot R$ $9,2 \cdot 10^{-4} \cdot R$ $6,6 \cdot 10^{-4} \cdot R$ $6,4 \cdot 10^{-4} \cdot R$ $1,9 \cdot 10^{-4} \cdot R$	Kayseri

Seq No.	Laboratory	Field	Item	Range	CMC	Location
248	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Voltage source Devices	$1 \Omega \leq R \leq 20 \Omega$ $20 \Omega \leq R \leq 200 \Omega$ $0,2 \text{ k}\Omega \leq R \leq 2 \text{ k}\Omega$ $2 \text{ k}\Omega \leq R \leq 20 \text{ k}\Omega$ $20 \text{ k}\Omega \leq R \leq 200 \text{ k}\Omega$ $0,2 \text{ M}\Omega \leq R \leq 2 \text{ M}\Omega$ $2 \text{ M}\Omega \leq R \leq 20 \text{ M}\Omega$ $20 \text{ M}\Omega \leq R \leq 200 \text{ M}\Omega$ $0,2 \text{ G}\Omega \leq R \leq 1 \text{ G}\Omega$	$2,6 \cdot 10^{-4} \cdot R$ $7,7 \cdot 10^{-5} \cdot R$ $3,5 \cdot 10^{-5} \cdot R$ $3,4 \cdot 10^{-5} \cdot R$ $4,6 \cdot 10^{-5} \cdot R$ $8,5 \cdot 10^{-5} \cdot R$ $3,0 \cdot 10^{-4} \cdot R$ $7,0 \cdot 10^{-3} \cdot R$ $2,5 \cdot 10^{-3} \cdot R$	Kayseri
249	TSE Sojuztest calibration Laboratories -Turkey	Electrical	AC Voltage measuring device <1100 V	$10 \text{ mV} \leq U \leq 330 \text{ mV}$ $0,33 \text{ V} \leq U \leq 3,3 \text{ V}$ $3,3 \text{ V} \leq U \leq 33 \text{ V}$ $33 \text{ V} \leq U \leq 330 \text{ V}$ $330 \text{ V} \leq U \leq 1000 \text{ V}$ $10 \text{ mV} \leq U \leq 200 \text{ mV}$ $200 \text{ mV} \leq U \leq 2 \text{ mV}$ $2 \text{ V} \leq U \leq 20 \text{ V}$ $20 \text{ V} \leq U \leq 200 \text{ V}$ $200 \text{ V} \leq U \leq 1000 \text{ V}$	$2,9 \cdot 10^{-3} \cdot U$ $8,2 \cdot 10^{-4} \cdot U$ $7,8 \cdot 10^{-4} \cdot U$ $8,4 \cdot 10^{-4} \cdot U$ $8,8 \cdot 10^{-4} \cdot U$ $4,3 \cdot 10^{-3} \cdot U$ $2,4 \cdot 10^{-3} \cdot U$ $2,5 \cdot 10^{-3} \cdot U$ $1,4 \cdot 10^{-3} \cdot U$ $2,5 \cdot 10^{-3} \cdot U$ $2,2 \cdot 10^{-3} \cdot U$ $2,2 \cdot 10^{-3} \cdot U$ $2,5 \cdot 10^{-3} \cdot U$ $2,2 \cdot 10^{-3} \cdot U$ $2,0 \cdot 10^{-3} \cdot U$ $1,5 \cdot 10^{-3} \cdot U$	Kayseri
250	TSE Sojuztest calibration Laboratories -Turkey	Electrical	AC Current Measurement devices	$0,1 \text{ mA} \leq I \leq 3,3 \text{ mA}$ $3,3 \text{ mA} \leq I \leq 33 \text{ mA}$ $33 \text{ mA} \leq I \leq 330 \text{ mA}$ $0,33 \text{ A} \leq I \leq 2,2 \text{ A}$ $2,2 \text{ A} \leq I \leq 11 \text{ A}$ $10 \text{ A} \leq I \leq 16,49 \text{ A}$ $16,5 \text{ A} \leq I \leq 149,99 \text{ A}$ $150 \text{ A} \leq I \leq 550 \text{ A}$	$4,9 \cdot 10^{-3} \cdot I$ $2,2 \cdot 10^{-3} \cdot I$ $2,3 \cdot 10^{-3} \cdot I$ $2,5 \cdot 10^{-3} \cdot I$ $2,2 \cdot 10^{-3} \cdot I$ $1,0 \cdot 10^{-2} \cdot I$ $2,4 \cdot 10^{-2} \cdot I$ $1,4 \cdot 10^{-2} \cdot I$	Kayseri

Seq No.	Laboratory	Field	Item	Range	CMC	Location
251	TSE Sojuztest calibration Laboratories -Turkey	Electrical	AC Current Source Device	$0,1 \text{ mA} \leq I \leq 2 \text{ mA}$ $2 \text{ mA} \leq I < 20 \text{ mA}$ $20 \text{ mA} \leq I < 200 \text{ mA}$ $0,2 \text{ A} \leq I \leq 3,3 \text{ mA}$ $20 \text{ mA} \leq I < 2 \text{ A}$ $1 \text{ A} \leq I \leq 10 \text{ A}$ $10 \text{ A} \leq I \leq 50 \text{ A}$ $50 \text{ A} \leq I \leq 600 \text{ A}$	$8,3 \cdot 10^{-3} \cdot I$ $6,6 \cdot 10^{-3} \cdot I$ $6,6 \cdot 10^{-3} \cdot I$ $5,3 \cdot 10^{-3} \cdot I$ $6,6 \cdot 10^{-3} \cdot I$ $5,3 \cdot 10^{-3} \cdot I$ $7,0 \cdot 10^{-3} \cdot I$ $5,7 \cdot 10^{-3} \cdot I$ $8,9 \cdot 10^{-3} \cdot I$ $1,4 \cdot 10^{-1} \cdot I$ $5,3 \cdot 10^{-2} \cdot I$	Kayseri
252	TSE Sojuztest calibration Laboratories -Turkey	Electrical	DC Power Measuring Device	$10,9 \text{ W} < P \leq 297 \text{ W}$ $29,7 \text{ W} < P \leq 726 \text{ W}$ $0,73 \text{ kW} < P \leq 11 \text{ kW}$	$7,9 \cdot 10^{-4} \cdot P$ $2,1 \cdot 10^{-3} \cdot P$ $8,1 \cdot 10^{-3} \cdot P$	Kayseri
253	TSE Sojuztest calibration Laboratories -Turkey	Electrical	AC Voltage Measurement Device	$1,9 \text{ W} < P < 297 \text{ W}$ $29,7 \text{ W} < P \leq 726 \text{ W}$ $0,73 \text{ kW} < P \leq 11 \text{ kW}$	$2,6 \cdot 10^{-3} \cdot P$ $2,6 \cdot 10^{-3} \cdot P$ $8,4 \cdot 10^{-3} \cdot P$	Kayseri
254	TSE Sojuztest calibration Laboratories -Turkey	Electrical	Capacitance Measurement Devices	$10,29 \text{ nF} \leq C \leq 32,999 \text{ nF}$ $33 \text{ nF} \leq C \leq 109,99 \text{ nF}$ $110 \text{ nF} \leq C \leq 329,99 \text{ nF}$ $0,33 \mu\text{F} \leq C \leq 1,09 \mu\text{F}$ $1,1 \mu\text{F} \leq C \leq 3,29 \mu\text{F}$ $3,3 \mu\text{F} \leq C \leq 10,99 \mu\text{F}$ $11 \mu\text{F} \leq C \leq 32,99 \mu\text{F}$	$1,4 \cdot 10^{-2} \cdot C$ $1,2 \cdot 10^{-2} \cdot C$ $6,8 \cdot 10^{-3} \cdot C$ $1,2 \cdot 10^{-2} \cdot C$ $7,9 \cdot 10^{-3} \cdot C$ $1,3 \cdot 10^{-2} \cdot C$ $8,4 \cdot 10^{-3} \cdot C$	Kayseri
255	TSE Sojuztest calibration Laboratories -Turkey	Time & Frequency	Time and Frequency Time Counter Devices Chronometer	$1 \text{ s} \leq t \leq 3600 \text{ s}$	$9,2 \cdot 10^{-3} \cdot s$	Kayseri
256	TSE Sojuztest calibration Laboratories -Turkey	Time & Frequency	Time and Frequency Angular Velocity Tachometer	$60 \text{ rpm} \leq w \leq 900 \text{ rpm}$ $901 \text{ rpm} \leq w \leq 9000 \text{ rpm}$ $9001 \text{ rpm} \leq w \leq 90000 \text{ rpm}$	$0,08 \text{ rpm}$ $0,10 \text{ rpm}$ $1,00 \text{ rpm}$	Kayseri

Seq No.	Laboratory	Field	Item	Range	CMC	Location
257	TSE Sojuztest calibration Laboratories -Turkey	Time & Frequency	Time and Frequency Measurement Device	1,0 Hz ≤ f ≤ 119,99 Hz 120 Hz ≤ f ≤ 1199,9 Hz 1,2 kHz ≤ f ≤ 11,999 kHz 12 kHz ≤ f ≤ 119,99 kHz 120 kHz ≤ f ≤ 1199,9 kHz 1,2 MHz ≤ f ≤ 2,00 MHz	2,4 · 10 ⁻³ · f 1,2 · 10 ⁻³ · f 1,1 · 10 ⁻² · f 1,1 · 10 ⁻² · f 1,1 · 10 ⁻² · f 1,8 · 10 ⁻² · f	Kayseri
258	TSE Sojuztest calibration Laboratories -Turkey	Time & Frequency	Time and Frequency Angular Velocity Tachometer Centrifuge, mixing devices	60 rpm ≤ w ≤ 900 rpm 901 rpm ≤ w ≤ 9000 rpm 9001 rpm ≤ w ≤ 90000 rpm	0,11 rpm 0,70 rpm 7,00 rpm	Kayseri
259	TSE Sojuztest calibration Laboratories -Turkey	Time & Frequency	Time and Frequency Source devices Frequency	1,00 Hz ≤ f ≤ 120 kHz 120 kHz ≤ f ≤ 1200kHz 1,2 MHz ≤ f ≤ 15MHz	3,8 · 10 ⁻⁴ · f 3,5 · 10 ⁻⁴ · f 3,6 · 10 ⁻⁴ · f	Kayseri
260	TSE Sojuztest calibration Laboratories -Turkey	Time & Frequency	Cos ø – meter Measurement Devices	0° ≤ δ ≤ 180 ° 0 ≤ pF ≤ 1	7,0 · 10 ⁻³ · δ	Kayseri
261	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Thermocouple Measurement Devices (Temperature Indicators)	B Type 600 °C ≤ T ≤ 1820 °C J Type -210 °C ≤ T ≤ 1200 °C K Type -200 °C ≤ T ≤ 1200 °C L Type -200 °C ≤ T ≤ 900 °C N Type -200 °C ≤ T ≤ 1300 °C R Type 100 °C ≤ T ≤ 1767 °C S Type 100 °C ≤ T ≤ 1767 °C T Type -250 °C ≤ T ≤ 400 °C U Type -200 °C ≤ T ≤ 600 °C	0,51 °C 0,34 °C 0,35 °C 0,35 °C 0,36 °C 0,40 °C 0,42 °C 0,35 °C 0,34 °C	Kayseri
262	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Thermocouple Simulators	B Type 350 °C ≤ T ≤ 1820 °C J Type -200 °C ≤ T ≤ 760 °C K Type -200 °C ≤ T ≤ 1200 °C L Type -200 °C ≤ T ≤ 900 °C N Type -200 °C ≤ T ≤ 1300 °C R Type 100 °C ≤ T ≤ 1767 °C S Type 100 °C ≤ T ≤ 1767 °C T Type -250 °C ≤ T ≤ 400 °C U Type -200 °C ≤ T ≤ 600 °C	0,50 °C 0,34 °C 0,34 °C 0,34 °C 0,35 °C 0,38 °C 0,40 °C 0,34 °C 0,33 °C	Kayseri

Seq No.	Laboratory	Field	Item	Range	CMC	Location
263	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Thermocouple Measurement Devices (Temperature Indicators)	B Type $600\text{ }^{\circ}\text{C} \leq T \leq 1820\text{ }^{\circ}\text{C}$ J Type $-210\text{ }^{\circ}\text{C} \leq T \leq 1200\text{ }^{\circ}\text{C}$ K Type $-200\text{ }^{\circ}\text{C} \leq T \leq 1200\text{ }^{\circ}\text{C}$ L Type $-200\text{ }^{\circ}\text{C} \leq T \leq 900\text{ }^{\circ}\text{C}$ N Type $-200\text{ }^{\circ}\text{C} \leq T \leq 1300\text{ }^{\circ}\text{C}$ R Type $100\text{ }^{\circ}\text{C} \leq T \leq 1767\text{ }^{\circ}\text{C}$ S Type $100\text{ }^{\circ}\text{C} \leq T \leq 1767\text{ }^{\circ}\text{C}$ T Type $-250\text{ }^{\circ}\text{C} \leq T \leq 400\text{ }^{\circ}\text{C}$ U Type $-200\text{ }^{\circ}\text{C} \leq T \leq 600\text{ }^{\circ}\text{C}$	0,40 °C 0,10 °C 0,12°C 0,12°C 0,18°C 0,36°C 0,38°C 0,12°C 0,10°C	Kayseri
264	TSE Sojuztest calibration Laboratories -Turkey	Thermal	RTD Measurement Device (Temperature Indicators)	$-200\text{ }^{\circ}\text{C} \leq T \leq 800\text{ }^{\circ}\text{C}$	0,06 °C	Kayseri
265	TSE Sojuztest calibration Laboratories -Turkey	Thermal	RTD Simulators	$-200\text{ }^{\circ}\text{C} \leq T \leq 630\text{ }^{\circ}\text{C}$	0,04 °C	Kayseri
266	TSE Sojuztest calibration Laboratories -Turkey	Thermal	DC High Voltage Devices (Source- Divider >1000V)	$1\text{ kV} \leq U \leq 40\text{ kV}$	0,91 %	Kayseri
267	TSE Sojuztest calibration Laboratories -Turkey	Thermal	AC High Voltage Devices (Source- Divider >1000V)	$1\text{ kV} \leq U \leq 40\text{ kV}$	0,58 %	Kayseri
268	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Indicating Temperature measurement device	$-40\text{ }^{\circ}\text{C} \leq T \leq 250\text{ }^{\circ}\text{C}$ $-40\text{ }^{\circ}\text{C} < T \leq 650\text{ }^{\circ}\text{C}$ $650\text{ }^{\circ}\text{C} < T \leq 1200\text{ }^{\circ}\text{C}$	0,10 °C 0,15 °C 2,3 °C	Kayseri
269	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Liquid in glass thermometer	$-40\text{ }^{\circ}\text{C} \leq T \leq 200\text{ }^{\circ}\text{C}$	0,15 °C	Kayseri
270	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Temperature Distribution Determination in Temperature Controlled volumes (Drying oven, incubator, sterilizer, stove, water bath, conditioning chamber etc.)	$-40\text{ }^{\circ}\text{C} \leq T \leq 90\text{ }^{\circ}\text{C}$ $-40\text{ }^{\circ}\text{C} \leq T \leq 90\text{ }^{\circ}\text{C}$ $90\text{ }^{\circ}\text{C} < T \leq 210\text{ }^{\circ}\text{C}$	0,80 °C 0,80 °C 1,30 °C	Kayseri
271	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Muffle Furnaces	$300\text{ }^{\circ}\text{C} \leq T \leq 1250\text{ }^{\circ}\text{C}$	2,60 °C	Kayseri
272	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Infra-red Thermometer Thermal Camera	$50\text{ }^{\circ}\text{C} \leq T \leq 5000\text{ }^{\circ}\text{C}$	2,0 °C	Kayseri
273	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Autoclave	$30\text{ }^{\circ}\text{C} \leq T \leq 143\text{ }^{\circ}\text{C}$	0,5 °C 0,08 Bar	Kayseri

Seq No.	Laboratory	Field	Item	Range	CMC	Location
274	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Block calibrator	-50 °C ≤ T ≤ 400 °C 400 °C < T ≤ 650 °C 650 °C < T ≤ 1200 °C	0,15 °C 0,30 °C 2,50 °C	Kayseri
275	TSE Sojuztest calibration Laboratories -Turkey	Thermal	Digital or Analog Temperature Measurement device (wall or table type)	15 °C ≤ T ≤ 30 °C	0,7 °C	Kayseri
276	TSE Sojuztest calibration Laboratories -Turkey	Relative Humidity	Digital or Analog Relative Humidity Measurement Device	20 % rh ≤ RH ≤ 80 % rh 80 % rh ≤ RH ≤ 95 % rh	3,0 % rh 3,7 % rh	Kayseri
277	TSE Sojuztest calibration Laboratories -Turkey	Pressure	Relative Pressure Analog and Digital Pressure Gauges, Pressure Calibrator, U manometer Differential Pressure Gauge	-0,20 bar ≤ p ≤ 0,20 bar -0,85 bar ≤ p ≤ -0,1 bar 0,2 bar ≤ p ≤ 20 bar 20 bar ≤ p ≤ 350 bar 60 bar ≤ p ≤ 600 bar	3,5 · 10 ⁻⁴ bar 8,2 · 10 ⁻³ bar 8,2 · 10 ⁻³ bar 0,23 bar 5,6 · 10 ⁻² bar	Kayseri
278	TSE Sojuztest calibration Laboratories -Turkey	Force	Material test Machines Calibration of Force Measurement systems Tensile Test machine Compression Test Machine Tensile/ Compression Test Machine	1 N ≤ F ≤ 1000 kN 150 kN ≤ F ≤ 3000 kN	% 0,16 % 0,32	Kayseri
279	TSE Sojuztest calibration Laboratories -Turkey	Force	Material test Machines Concrete Test Machine	200 kN ≤ F ≤ 3000 kN	% 0,32	Kayseri
280	TSE Sojuztest calibration Laboratories -Turkey	Hardness	Calibration of Brinell Hardness Measurement Machines	HBW 2,5/62,5 HBW 2,5/187,5 HBW 5/750 HBW 10/3000	% 2,0 . HBW	Kayseri
281	TSE Sojuztest calibration Laboratories -Turkey	Hardness	Calibration of Vickers Hardness Measurement Machines	HV 0,2 HV 0,3 HV 0,5 HV 1 HV 5 HV 10	% 2,0 . HV	Kayseri

Seq No.	Laboratory	Field	Item	Range	CMC	Location
282	TSE Sojuztest calibration Laboratories -Turkey	Hardness	Calibration of Rockwell Hardness Measurement Machine	20 ≤ HRA ≤ 88 20 ≤ HRB ≤ 100 20 ≤ HRC ≤ 70 73 ≤ HR15T ≤ 93 43 ≤ HR30T ≤ 82 12 ≤ HR45T ≤ 72 70 ≤ HR15N ≤ 91 42 ≤ HR30N ≤ 80 20 ≤ HR45N ≤ 70	0,5 HRA 1,0 HRB 0,5 HRC 1,0 HRT 1,0 HRT 1,0 HRT 1,0 HRN 1,0 HRN 1,0 HRN	Kayseri
283	TSE Sojuztest calibration Laboratories -Turkey	Hardness	Examination / Calibration of Optical Track Measurement Equipment in Hardness Measurement Test Machines	L ≤ 20 mm	1,5x 10 ⁻³ · L On condition that it is not smaller than(μm) 0,5	Kayseri
284	PROMPT	Pressure	Pneumatic pressure gauge	-1 bar to 120 bar	0.57% FS	Doha
285	PROMPT	Pressure	Vacuumed gauge	-1 bar to 200 bar	0.57% FS	Doha
286	PROMPT	Pressure	Hydraulic pressure gauge	0 bar to 140 bar 140 bar to 1200 bar	0.39% FS	Doha
287	PROMPT	Thermal	Glass thermometer	-30°C to 660°C	0.25 °C	Doha
288	PROMPT	Thermal	Prop thermometer, switch gauge, transmitter	-30°C to 660°C	0.25 °C	Doha
289	PROMPT	Thermal	Controllers,	-30°C to 660°C	0.25 °C	Doha
290	PROMPT	Thermal	Thermocouple Indicators Type K	-250°C to 1372°C	0.46 °C	Doha
291	PROMPT	Thermal	Thermocouple Indicators Type J	-210°C to 1200°C	0.46°C	Doha
292	PROMPT	Thermal	Thermocouple Indicators Type T	-250°C to 400°C	0.46°C	Doha
293	PROMPT	Thermal	Thermocouple Indicators Type R	0°C to 1767°C	0.46°C	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
294	PROMPT	Thermal	Thermocouple Indicators Type S	0°C to 1767°C	0.46°C	Doha
295	PROMPT	Thermal	Thermocouple Indicators Type N	-200°C to 1300°C	0.46°C	Doha
296	PROMPT	Thermal	Thermocouple Indicators Type E	-250°C to 1000°C	0.46°C	Doha
297	PROMPT	Thermal	Ovens freezers Fridge incubators	-195°C to 419°C	0.63°C	Doha
298	PROMPT	Dimensional	Calipers	0 mm to 300mm 0 mm to 300mm	9.0µm 17.8 µm	Doha
299	PROMPT	Dimensional	Micrometers	0 mm to 150 mm 0 mm to 150 mm	6.0 µm 1.9µm	Doha
300	PROMPT	Dimensional	Height gageslength Dial Digital Vernier	0 mm to 600mm 0 mm to 600mm	11.0µm 15.0µm	Doha
301	PROMPT	Dimensional	Thickness gauge Feeler gauge	0 mm to 5 mm 0 mm to 25 mm 0 mm to 50 mm 0.01 mm to 2.0 mm	1.0 µm 5.9 µm 6.0 µm 2.7 µm	Doha
302	PROMPT	Electrical	DC voltage generate	0 µA to 329.999 µA 0 mA to 3.29999 mA 0 mA to 32.9999 mA 0mA to 329.9mA 0 A to1.09999A 1.1 A to 2.99999A 0 A to 10.9999A 11 A to 20.5 A 300 A to 1000 A	0.04%RD G 0.02%RD G 0.06%RD G 0.02%RD G 0.06%RD G 0.11%RD G 0.08%RD G 0.08%RD G 0.5% RDG	Doha
303	PROMPT	Electrical	DC voltage measure	100 mV 1 V 10 V 100 V 1000 V	0.006%RDG 0.006%RDG 0.02%RDG 0.02%RDG 0.02%RDG	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
304	PROMPT	Electrical	Resistance measure	10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1MΩ 10 MΩ 100 MΩ 1.0 GΩ	0.36%RDG 0.23%RDG 0.23%RDG 0.73%RDG 0.73%RDG 0.73%RDG 1.37%RDG 1.37%RDG	Doha
305	PRECISION	Radiation	Nuclear Surface Density Gauge Calibration	(1758.8 to 2725) kg/m	0.10 %	Doha
306	PRECISION	Radiation	Nuclear Surface Moisture Gauge Calibration	(0 to 800) kg/m ³	0.60 %	Doha
307	AI BADER	Hardness	Indirect Verification of Rockwell Hardness Reference Blocks Vickers hardness, Brinell Hardness	o to 100 HRA o to 100 HRC o to 100 HRBW 17.9 to 69.5 HRC 0- 100 HV 0- 100 HBW	0.9 HRA 1.0 HRC 0.9 HRBW 1 HRC 6.7 HV 1.6 HBW	Doha-Qatar
308	AI BADER	Hardness	Indirect Verification of Rubber Hardness Reference Blocks Type A, Type D, Leeb (Type D)	0 to 100 RHD o to 100 RHD 170 to 960 HLD	1.7 RHD 2 RHD 6 HLD	Doha-Qatar
309	AI BADER	Chemical Quantities	pH- Measuring Equipment	4.0 pH 7.0 pH 10.2 pH	0.03 pH 0.03 pH 0.03 pH	Doha-Qatar
310	AI BADER	Chemical Quantities	Conductivity- Measuring Equipment	5 μS/cm to 500 μS/cm	0.75 %	Doha-Qatar
311	AI BADER	Dimensional	Internal Diameter Components	(125 to 150) mm	18 μm	Doha-Qatar
312	AI BADER	Dimensional	Dial Indicator/Gauge	0 to 10 mm 0 to 25 mm	4 μm 6 μm	Doha-Qatar
313	AI BADER	Dimensional	Electronic Dial Indicator/ Gauge (Resolution 0.001 mm and Resolution 0.01 mm)	0 to 25 mm 0 to 25 mm	2 μm 8 μm	Doha-Qatar

Seq No.	Laboratory	Field	Item	Range	CMC	Location
314	AI BADER	Dimensional	Dial Calibration Tester	0 to 25 mm	1.3 μ m	Doha-Qatar
315	AI BADER	Dimensional	Straight Edge	Straightness over 3 m span	14 μ m	Doha-Qatar
316	AI BADER	Dimensional	Compression/Tension Machine Platens	Flatness over 300 mm x 300 mm	11 μ m	Doha-Qatar
317	AI BADER	Dimensional	Radius Gauge	(0.5 to 50) mm	0.5 mm	Doha-Qatar
318	AI BADER	Dimensional	Travelling Beam Apparatus	Up to 25 mm	2.5 mm	Doha
319	AI BADER	Dimensional	Non-Contact Speed Cross Head/Position Transducer Speed	Up to 600 mm	0.066 mm	Doha
320	AI BADER	Dimensional	Roughness Tester	Ra (0.025 to 100) μ m	0.013 μ m	Doha
321	AI BADER	Dimensional	Concrete Cover Meter Depth	(15 to 50) mm	0.82 mm	Doha
322	AI BADER	Dimensional	Surface Plates-Local Area Flatness Only	Up to 1900 x 3000 mm	0.66 μ m	Doha
323	AI BADER	Electrical	AC Current - Measure @50 Hz	(1 to 100) μ A (0.01 to 1) mA (0.1 to 10) mA (1 to 100) mA (0.01 to 1) A (0.03 to 3) A (0.1 to 10) A	0.05 % 4.6 % 0.46 % 0.05 % 4.6 % 2.3 % 0.69 %	Doha
324	AI BADER	Electrical	AC Voltage - Measure @ 50 Hz	(1.0 to 100) mV (0.01 to 1) V (0.1 to 10) V (1 to 100) V (10 to 1000) V	0.12 % 0.10 % 0.10 % 0.10 % 0.02 %	Doha
325	AI BADER	Electrical	DC Current Measure	(0.01 to 100) μ A (0.507 to 1) mA (2.007 to 10) mA (4.01 to 100) mA (0.0005 to 1) A (0.0035 to 3) A (0.018 to 10) A	0.03 % 0.58 % 0.23 % 0.01 % 2.3 % 0.77 % 0.09 %	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
326	AI BADER	Electrical	AC Current - Generate	(29.00 to 329.999) μ A (0.33 to 3.29999) mA (3.3 to 32.9999) mA (33 to 329.999) mA (1.1 to 2.9999)A	0.57 % 0.0014 % 0.0005 % 0.0012 % 3.1 %	Doha
327	AI BADER	Electrical	AC Voltage - Generate	(1.0 to 32.999) mV (33 to 329.999) mV (0.33 to 3.299 99) V (3.3 to 32.9999) V (33 to 329.999) V (330 to 1020) V	0.029 % 0.002 % 0.11 % 0.017 % 0.019 % 0.004 %	Doha
328	AI BADER	Electrical	DC Current - Generate	(0.002 to 329.999) μ A (0.000 02 to 3.299 99) mA (0.0002 to 32.9999) mA (0.002 to 329.999) mA (0.000 02 to 1.099 99) A (1.1 to 2.999 99) A (0.0002 to 10.9999) A	0.0004 % 0.0036 % 0.0004 % 0.004 % 0.028 % 0.025% 0.017 %	Doha
329	AI BADER	Electrical	DC Resistance - Generate	(0.001 to 10.9999) Ω (11 to 32.9999) Ω (33 to 109.9999) Ω (110 to 329.9999) Ω 330 Ω to 1.099 999 k Ω (1.1 to 3.299 999) k Ω (3.3 to 10.999 99) k Ω (11 to 32.999 99) k Ω (33 to 109.9999) k Ω (110 to 329.9999) k Ω 330 k Ω to 1.099 999 M Ω (1.1 to 3.299 999) M Ω (3.3 to 10.999 99) M Ω (11 to 32.999 99) M Ω (33 to 109.9999) M Ω (110 to 329.9999) M Ω (330 to 1100) M Ω	0.0025 % 0.0012 % 0.0007 % 0.0006% 0.0004 % 0.0007% 0.0006 % 0.0004 % 0.0004% 0.0005 % 0.0009 % 0.0012 % 0.0014 % 0.010 % 0.014 % 0.061 % 0.11%	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
330	AI BADER	Radiation	Nuclear Density Gauge - Contamination Leak Test	0.01205 μ Ci (445.9 Bq) 0.01618 μ Ci (598.7 Bq)	0.000 032 μ Ci 0.000 032 μ Ci	Doha
331	AI BADER	Fluid Quantities	Air Velocity - Hot Wire, Vane Type and Pitot Tube Anemometer	2.5 m/s to 15 m/s (Vane anemometer) (Pitot)	1.3 m/s	Doha
332	AI BADER	Fluid Quantities	Air/Mass Flow Meter	0.1 to 30 LPM	0.051 %	Doha
333	AI BADER	Radiation	Survey Meter Calibration	(5 to 61 000) μ sv	8.4% of reading	Doha
334	AI BADER	Radiation	Survey Meter Energy Calibration Contamination per Unit Area	C1-36, 2.69 kBq Am-241, 3.81 kBq C-14, 2.42 kBq Sr-90, 2.86 kBq	3.3 % 3.3 % 3.3 % 3.3 %	Doha
335	AI BADER	Thermal	Simulated Temperature (Temp Controller/Indicator/Recorder/Scanner), Thermocouples Types (B, R, S, E, J, K, N, T, U, L, C, G, D), RTDs (Pt50 and Pt100, Nil00, Nil20, Cu10)	600 °C to 1820 °C -50 °C to 1768 °C -50°C to 1768 °C - 270°C to 1000 °C -210 °C to 1200 °C -270 °C to 1372 °C - 270 °C to 1300 °C - 270 °C to 400 °C -200 °C to 600 °C -200 °C to 900 °C 0 °C to 2315 °C -200 °C to 850 °C -60 °C to 180 °C -80 °C to 260 °C -200 °C to 260 °C	0.29 °C 0.29 °C 0.29 °C 0.26 °C 0.26 °C 0.26 °C 0.26 °C 0.24 °C 0.25 °C 0.26°C 0.32°C 0.50°C 0.50°C 0.50°C 0.50°C	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
336	AI BADER	Pressure and Vacuum	Pressure - Measuring Equipment	(-1 to 2) bar Up to 70 bar Up to 700 bar Up to 2500 bar (-0.9 to 40) bar	0.07 % of reading 0.09 % of reading 0.11 % reading 0.12 % full scale 0.03 % of reading	Doha
337	AI BADER	Mass	Balance	(0 to 220) g (0 to 420) g (0 to 510) g (0 to 4200) g (0 to 12 000) g (0 to 110) kg (0 to 31) kg (0 to 200) g (200 to 500) g 500 g to 1kg (1 to 5) kg (5 to 50) kg	0.16 mg 0.60 mg 0.70 mg 8 mg 10 mg 35 g 0.1 g 0.61 mg 3.1 mg 6.1 mg 0.11 g 0.81 g	Doha
338	AI BADER	Mass	Electronic Balance	(0 to 300) kg	0.13 kg	Doha
339	AI BADER	Mass	Batching Plant	(0 to 3000) kg (0 to 5000) kg	1.7 kg 3.1 kg	Doha
340	AI BADER	Mass	Mass - Reference Weights (Analytical and Bullion)	(0 to 1000) mg (1 to 1000) g (1 to 20) kg	1 mg 1.2 mg 0.34 g	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
341	AI BADER	Mass	Mass - Reference Weights Measure	1 mg 20 mg 50 mg 500 mg 1 g 20 g 50 g 200 g 1 kg 2 kg 10 kg 20 kg 50 kg	0.05 mg 0.05 mg 0.05 mg 0.05 mg 0.06 mg 0.065 mg 0.07 mg 0.23mg 1.6 mg 1.8 mg 0.03g 0.18 g 0.2 g	Doha
342	AI BADER	Hardness	Impact Hammer for Concrete Hardness	(10 to 100) RN	1.1 RN	Doha
343	AI BADER	Optical	Lux meter	(100 to 10 000) cd	1.0 %	Doha
344	AI BADER	Thermodynamics	Humidity Cabinet/Chamber	(0 to 95) % RH	3 % RH	Doha
345	AI BADER	Thermodynamics	Water Bath	0 °C to 100 °C	0.07 °C	Doha
346	AI BADER	Thermodynamics	Infrared Thermometer	(-15 to 500) °C	0.64 °C	Doha
347	AI BADER	Force	Air Content Meter	(0 to 15) %	0.24 %	Doha
348	AI BADER	Force	Durometer Calibration -Type A and D, Indentor Extension and Shape (Diameter, Radius, Angle, Extension, Indentor Display (0 to 100) duro units, Spring Calibration - Force)	Up to 1.4 mm Up to 1.2 mm Up to 35° Up to 2.5 mm (0 & 2.5) mm Up to 4600 gf	0.0035mm 0.5 mm 0.049° - 0.4 % 0.03 gf	Doha
349	AI BADER	Thermal	Hydrometer	(0.7 to 2) SG	0.12 SG	Doha

Seq No.	Laboratory	Field	Item	Range	CMC	Location
350	AI BADER	Dimensional	Angle (Bevel Protector, Combination set, Tri Square, Right Angle etc.)	Up to 360°	0.049°	Doha-Qatar
351	AI BADER	Pressure	Moisture Tester	0 psi to 20 psi	0.85 psi	Doha-Qatar
352	PRECISION	Force	Compressive machine	5kN to 3000kN	0.11kN to 1.64kN	Doha-Qatar
353	PRECISION	Force	Load cell	5kN to 3000kN	0.11kN to 1.64kN	Doha-Qatar

International Testing Laboratory

Seq No.	Laboratory	Field	Test Name	Test Method	Location
1	Turkish Standards Institution Laboratories (TSE) - Turkey	Mechanical tests of metallic materials	Brinell hardness test - Part 1: Test method	EN ISO 6506-1	İzmir & Gebze
2	Turkish Standards Institution Laboratories (TSE) - Turkey	Mechanical tests of metallic materials	60 HBW 2.5/62.5-300 HBW	ISO 6506-1	İzmir & Gebze
3	Turkish Standards Institution Laboratories (TSE) - Turkey	Mechanical tests of metallic materials	2.5/62.5	EN ISO 6508-1	İzmir, Kayseri & Gebze
4	Turkish Standards Institution Laboratories (TSE) - Turkey	Mechanical tests of metallic materials	100 HBW 2.5/187.5-400 HBW	ISO 6508-1	İzmir & Gebze
5	Turkish Standards Institution Laboratories (TSE) - Turkey	Mechanical tests of metallic materials	2.5/187.5		Gebze
6	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material		EN ISO 6892-1	İzmir & Tuzla
7	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Rockwell hardness test - Part 1: Test method	ISO 6892-1	İzmir & Gebze
8	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	20 HRB-100 HRB	ASTM A615	İzmir & Gebze
9	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	20 HRC-70 HRC		İzmir & Gebze
10	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	20 HRA-88 HRA	EN ISO 6507-1	İzmir & Gebze
11	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	20 HRC-70 HRC	ISO 6507-1	Tuzla
12	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	70 HR15N-94 HR15N		Tuzla

Seq No.	Laboratory	Field	Test Name	Test Method	Location
13	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	20 HR45N-77 HR45N	EN ISO 148-1	Tuzla
14	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	67 HR15T-93 HR15T	ISO 148-1	Tuzla
15	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	10 HR45T-72 HR45T	EN ISO 11925-2	İzmir & Tuzla
16	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Tensile testing - Part 1: Method of test	ISO 11925-2	İzmir & Tuzla
17	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	at room temperature	EN 13823	İzmir & Tuzla
18	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Vickers hardness test - Part 1: Test method	EN ISO 1182	İzmir
19	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	150HV30-840 HV30	ISO 1182	İzmir
20	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	200 HV50-900 HV50	EN ISO 1716	İzmir & Tuzla
21	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	HV1,HV10 & HV30	ISO 1716	İzmir, Kayseri & Tuzla
22	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Charpy Impact Test (V- Notch) 300 J	EN ISO 9239-1	İzmir & Tuzla
23	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Ignitability of products subjected to direct impingement of flame -	ISO 9239-1	İzmir & Tuzla
24	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Part 2: Single flame source test	ISO 5658-2	İzmir & Tuzla
25	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	fire tests for building products exposed to the thermal attack by a single burning	EN ISO 5659-2	İzmir, Kayseri & Tuzla

Seq No.	Laboratory	Field	Test Name	Test Method	Location
26	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Reaction to fire tests for products –	ISO 5659-2	İzmir & Tuzla
27	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Non combustibility test	ISO 5660-1	İzmir & Tuzla
28	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Determination of the gross heat of combustion (calorific value)	EN ISO 4589-2/A1	İzmir, Kayseri & Gebze
29	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Reaction to fire tests for floorings - Part 1: Determination of the burning behavior using a radiant heat source	ISO 4589-2/A1	İzmir & Tuzla
30	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Reaction to fire tests -spread of flame -part 2: lateral spread on building and transport products in vertical configuration	EN 13820	İzmir & Tuzla
31	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Determination of Smoke Toxicity in The Test Chamber Using FTIR Spectroscopy	EN 13501-1	İzmir & Tuzla
32	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Reaction-to-fire tests -- Heat release, smoke production and mass loss rate -- Part 1: Heat release rate (cone calorimeter method) and smoke production rate (dynamic measurement)	EN 13501-5	İzmir & Tuzla
33	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Plastics -- Determination of Burning Behavior by Oxygen Index -- Part 2: Ambient Temperature Test	EN 60079-1	İzmir & Tuzla
34	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Thermal insulating materials for building applications -Determination of organic content	IEC 60079-1	İzmir & Tuzla
35	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests	EN 13463-3	İzmir , Kayseri & Tuzla
36	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Fire classification of construction products and building elements -- Part 5:Classification using data from external fire exposure to roof tests	EN 13658-1:2005	İzmir & Tuzla
37	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Explosive Atmospheres - Part 1: Equipment Protection by Flameproof Enclosures "d"	EN 13658-2:2005	İzmir & Tuzla
38	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Non-electrical Equipment for Use in Potentially Explosive Atmospheres - Part 3: Protection by Flameproof Enclosure "d "	EN 13815:2006	İzmir & Tuzla

Seq No.	Laboratory	Field	Test Name	Test Method	Location
39	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Plasterboards and ceiling elements with	EN 13915:2007	İzmir & Tuzla
40	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	thin laminations, fibrous gypsum boards,	EN 13950:2014	İzmir & Tuzla
41	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	fibrous gypsum plaster casts, and composite	EN 13950:2005	İzmir & Tuzla
42	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	panels (laminates), in which the	EN 13963:2005	İzmir , Corum & Tuzla
43	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	incorporated material is placed on a face	EN 13963:2005/AC:2006	İzmir
44	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	susceptible to be exposed to fire, including	EN 14190:2014	İzmir & Tuzla
45	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	relevant ancillary products (in walls,	EN 14190:2005	İzmir Kayseri, & Tuzla
46	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	partitions or ceilings (or lining thereof)	EN 14209:2005	İzmir & Tuzla
47	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	subject to reaction to fire requirements).	EN 14496:2005	İzmir , Kayseri & Tuzla
48	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Gypsum products (2/4):	EN 15283-1:2008+A1:2009	Tuzla & Kayseri
49	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	- Plasterboards, blocks, ceiling elements and gypsum plasters,	EN 15283-2:2008+A1:2009	Tuzla & Kayseri
50	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	fibrous gypsum plasters casts, including relevant ancillary products		Tuzla

Seq No.	Laboratory	Field	Test Name	Test Method	Location
51	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	(in walls, partitions or ceilings, as relevant, intended for fire protection of structural	EN 12859:2011	Tuzla
52	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	elements and/or fire compartmentation in buildings).	EN 12860:2001/AC:2002	Tuzla & Kayseri
53	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Curtain walling (1/1): - Curtain wall kits (as external walls not subject to reaction to fire requirements).	EN 13279-1:2008	Tuzla
54	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Wood-based panels (2/2): - Unfaced, overlaid and veneered or coated wood-based panels	EN 520:2004+A1:2009	Tuzla
55	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	(for nonstructural elements in internal or external applications).	EN 13830:2015	Tuzla
56	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Masonry and related products (3/3) : - Masonry units incorporating thermal insulating materials placed on a face susceptible to be exposed to fire (in walls and partitions subject to reaction to fire regulations).	EN 13830:2003	Tuzla
57	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Roof coverings, rooflights, roof windows and ancillary products (2/6)& (3/6) : - Factory-bonded composite or sandwich panels (for uses subject to reaction to fire regulations &for uses subject to external fire performance regulations).	EN 13986:2004+A1:2015	Tuzla
58	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Roof coverings, rooflights, roof windows and ancillary products (2/6): - Flat and profiled sheets (for uses	EN 15824:2009	Tuzla
59	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	subject to reaction to fire regulations).	EN 14509:2013	Tuzla & Kayseri
60	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Roof coverings, rooflights, roof windows and ancillary products (2/6)&(3/6) :-	EN 14782:2006	Tuzla
61	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Roofing tiles, slates, stones and shingles (for uses subject to reaction to fire regulations &for uses	EN 14783:2013	Tuzla
62	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	subject to external fire performance regulations).	EN 534:2006+A1:2010	Tuzla
63	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Roof coverings, rooflights, roof windows and ancillary products (2/6) &(3/6) :-	EN 12326-1:2014	Tuzla & Kayseri
64	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Roof windows (for uses subject to reaction to fire regulations &for uses subject to external fire	EN 1304:2005	Tuzla

Seq No.	Laboratory	Field	Test Name	Test Method	Location
65	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Performance regulations).	EN 490:2011	Tuzla
66	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Roof coverings, rooflights, roof windows and ancillary products (2/6) &(3/6):	EN 492:2012	Tuzla
67	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	- Rooflights (for uses subject to reaction to fire regulations &for	EN 494:2012	Tuzla
68	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	uses subject to external fire performance	EN 494:2012+A1:2015	Tuzla
69	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	regulations).	EN 544:2011	Tuzla
70	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Internal and external wall and ceiling finishes (3/5); - Cladding slabs (as external finishes in walls or ceilings		Tuzla
71	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	subject to reaction to fire regulations).	EN 14351-1:2006+A1:2010	Tuzla
72	Turkish Standards Institution Laboratories (TSE) - Turkey	fire tests for construction material	Internal and external wall and ceiling finishes (3/5):- Shingles (as external finishes in walls or ceilings subject	EN 14963:2006	Tuzla
73	Turkish Standards Institution Laboratories (TSE) - Turkey	Chemical analysis of cement	to reaction to fire regulations).	EN 1873:2014+A1:2016	Ankara
74	Turkish Standards Institution Laboratories (TSE) - Turkey	Chemical analysis of cement	Internal and external wall and ceiling finishes (3/5):- Suspended ceilings (kits) (as internal or	EN 1873:2005	Ankara
75	Turkish Standards Institution Laboratories (TSE) - Turkey	Chemical analysis of cement	external finishes in ceilings subject to reaction to fire regulations).	EN 1469:2015	Ankara
76	Turkish Standards Institution Laboratories (TSE) - Turkey	Chemical analysis of cement	Internal and external wall and ceiling finishes (3/5):- Coverings in roll form (as internal finishes in walls or	EN 1469:2004	Ankara
77	Turkish Standards Institution Laboratories (TSE) - Turkey	Chemical analysis of cement	ceilings subject to reaction to fire regulations)	EN 12467:2012	Ankara
78	Turkish Standards Institution Laboratories (TSE) - Turkey	Chemical analysis of cement	Internal and external wall and ceiling finishes (3/5); - Sidings (as internal or external finishes in walls or	EN 13964:2014	Ankara

Seq No.	Laboratory	Field	Test Name	Test Method	Location
79	Turkish Standards Institution Laboratories (TSE) - Turkey	Cement tests	ceilings subject to reaction to fire regulations).	EN 13964:2004/A1:2006	Ankara
80	Turkish Standards Institution Laboratories (TSE) - Turkey	Cement tests	Internal and external wall and ceiling finishes (3/5) : - Panels (as internal or external finishes in walls or	EN 13964:2004}	Ankara
81	Turkish Standards Institution Laboratories (TSE) - Turkey	Cement tests	ceilings subject to reaction to fire regulations)	EN 14716:2004	Ankara
82	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Membranes (2/3)&(3/3) : - Roof sheets (for uses subject to reaction to fire regulations &for uses subject to	EN 13245-2:2008	Ankara
83	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	external fire performance regulations).	EN 13245-2:2008/AC:2009	Ankara
84	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Membranes (2/3) : - Damp proofing sheets (For uses subject to reaction to fire regulations).	EN 14915:2013	Ankara
85	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Membranes (2/3):- Water vapor control layers (for uses subject to reaction to fire regulations).	EN 534:2006+A1:2010	Ankara
86	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Membranes (2/3): - Damp proof courses (for uses subject to reaction to fire regulations).	EN 438-7:2005	Ankara
87	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Thermal insulating products (2/2) : - Thermal Insulating products (factory-made products and products	EN 15102:2007+A1:2011	Ankara
88	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	intended to be formed in-situ)-(for uses subject to regulations on reaction to fire).	EN 1013:2012+A1:2014	Ankara
89	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Products related to concrete, mortar and grout (2/2): - Concrete protection and repair products (for uses	EN 14509:2013	Ankara
90	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	subject to reaction to fire regulations).	EN 13707:2013	Ankara
91	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Construction adhesives (2/2) : - Adhesives for tiles (for uses subject to reaction to fire regulations)	EN 13707:2004+A2:2009	Ankara

Seq No.	Laboratory	Field	Test Name	Test Method	Location
92	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Space heating appliances (2/2):- Space heating appliances without internal energy source (for uses subject	EN 13956:2012	Ankara
93	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	to reaction to fire regulations).	EN 13967:2012	Ankara
94	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Pipes, tanks and ancillaries not in contact with water intended for human consumption (4/5) :	EN 13969:2004	Ankara
95	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	-Tanks (in installations in areas subject to reaction to fire regulations, used for the	EN 13969:2004/A1:2006	Ankara
96	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	transport/disposal/storage of water not intended for human consumption)	EN 13859-1:2010	Ankara
97	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Flat glass, profiled glass and glass-block products (2/6) :- Insulating glass units (for uses subject to reaction	EN 13859-2:2010	Ankara
98	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	to fire regulations)	EN 13970:2004	Ankara
99	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Flat glass, profiled glass and glass-block Products (2/6) & (3/6):- Flat or curved glass panels (for uses subject	EN 13970:2004/A1:2006	Ankara
100	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	to reaction to fire regulations &for uses subject to external fire performance regulations).	EN 13984:2013	Ankara
101	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	Flat glass, profiled glass and glass-block Products (3/6):- Insulating glass units (for uses subject to external	EN 14909:2012	Ankara
102	Turkish Standards Institution Laboratories (TSE) - Turkey	Aggregate	fire performance regulations).	EN 14967:2006	Ankara
103	Turkish Standards Institution Laboratories (TSE) - Turkey	Concrete	Fire classification of construction products and building elements - Part 2: Classification using data from fire	EN 13162:2012+A1:2015	Ankara, Corum & Gebze
104	Turkish Standards Institution Laboratories (TSE) - Turkey	Concrete	resistance tests, excluding ventilation services	EN 13163:2012+A1:2015	Ankara& Corum

Seq No.	Laboratory	Field	Test Name	Test Method	Location
105	Turkish Standards Institution Laboratories (TSE) - Turkey	Concrete	Fire resistance- tests- part 1: general requirements	EN 13164:2012+A1:2015	Ankara& Corum
106	Turkish Standards Institution Laboratories (TSE) - Turkey	Terrazzo tiles tests for internal and external use	Fire resistance tests- part 2: alternative and additional procedures	EN 13165:2012+A1:2015	Ankara
107	Turkish Standards Institution Laboratories (TSE) - Turkey	Terrazzo tiles tests for internal and external use	Fire-resistance tests -- elements of building construction -- part 1: general requirements	EN 13166:2012+A1:2015	Ankara
108	Turkish Standards Institution Laboratories (TSE) - Turkey	Terrazzo tiles tests for internal and external use	Fire resistance tests for non- loadbearing elements: walls , ceilings, curtain walling - full configuration	EN 13167:2012+A1:2015	Ankara
109	Turkish Standards Institution Laboratories (TSE) - Turkey	Terrazzo tiles tests for internal and external use	(complete assembly)& curtain walling – part configuration	EN 13168:2012+A1:2015	Ankara
110	Turkish Standards Institution Laboratories (TSE) - Turkey	Terrazzo tiles tests for internal and external use	Fire resistance tests for loadbearing elements : walls, floors and roofs, beams & columns	EN 13169:2012+A1:2015	Ankara
111	Turkish Standards Institution Laboratories (TSE) - Turkey	Terrazzo tiles tests for internal and external use	Fire resistance tests for service installations: linear joint seals	EN 13170:2012+A1:2015	Ankara
112	Turkish Standards Institution Laboratories (TSE) - Turkey	Terrazzo tiles tests for internal and external use	Test methods for determining the contribution to the fire resistance of structural members: horizontal	EN 13171:2012+A1:2015	Ankara
113	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	protective membrane	EN 14064-1:2010	Ankara
114	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Test methods for determining the contribution to the fire resistance of structural members: vertical	EN 14303:2009+A1:2013	Ankara
115	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	protective membranes	EN 14304:2009+A1:2013	Ankara
116	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Test methods for determining the contribution to the fire resistance of structural members: applied	EN 14305:2009+A1:2013	Ankara
117	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	protection to concrete members	EN 14306:2009+A1:2013	Ankara
118	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Test methods for determining the contribution to the fire resistance of structural members: applied passive	EN 14307:2009+A1:2013	Ankara

Seq No.	Laboratory	Field	Test Name	Test Method	Location
119	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	protection to steel members	EN 14308:2009+A1:2013	Ankara
120	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	fire resistance test for door and shutter assemblies and openable windows	EN 14309:2009+A1:2013	Ankara
121	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	fire resistance characterization test for elements of building hardware	EN 14313:2009+A1:2013	Ankara
122	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	smoke control test for door and shutter assemblies	EN 14313:2015	Ankara
123	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Secure storage units - classification and methods of test for resistance to fire – light fire storage units	EN 14314:2009+A1:2013	Ankara
124	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	landing doors fire resistance test	EN 14315-1:2013	Ankara
125	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Fire tests on building materials and structures for Non-Loadbearing Construction Products	EN 14315-2:2013	Ankara
126	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Fire resistance tests for service installations: raised access floors and hollow floors	EN 14933:2007	Ankara
127	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Fire resistance tests for service installations: penetration seals	EN 14934:2007	Ankara
128	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Test methods for determining the contribution to the fire resistance of structural members: applied reactive	EN 1504-2:2004	Ankara
129	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	protection to steel members	EN 1504-3:2005	Ankara
130	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Methods for determination of the fire resistance of loadbearing elements of construction	EN 1504-4:2004	Ankara
131	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Method for determination of the fire resistance of elements of construction (general principles)	EN 1504-6:2006	Ankara

Seq No.	Laboratory	Field	Test Name	Test Method	Location
132	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Methods for determination of the fire resistance of loadbearing elements of construction	EN 12004:2007+A1:2012	Ankara
133	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Fire resistance test for unprotected electric cables (P classification)	EN 12004-1:2017	Ankara
134	Turkish Standards Institution Laboratories (TSE) - Turkey	Masonry and concrete paving product tests	Manholes and inspection chambers (For all use(s) when subject to regulations on reaction to fire)	EN 442-1:2014	Manisa
135	Turkish Standards Institution Laboratories (TSE) - Turkey	Slabs of natural stone for external paving	Determination of Loss On Ignition	EN 13341:2005+A1:2011	Ankara
136	Turkish Standards Institution Laboratories (TSE) - Turkey	Slabs of natural stone for external paving	Determination of Chloride	EN 295-1:2013	Ankara
137	Lonestar Alpha Laboratories - Oman	Soil	Moisture Content	BS 1377 Part.2 /ASTM D2216	Muscat – Sahar-Duqm-Salalah
138	Lonestar Alpha Laboratories - Oman	Soil	Atterberg Limits	BS 1377 Part.2	Muscat
139	Lonestar Alpha Laboratories - Oman	Soil	Sieve analysis (Wet)	BS 1377 Part.2	Muscat
140	Lonestar Alpha Laboratories - Oman	Soil	Moisture /density relationship (Proctor Test)	BS 1377 Part 4	Muscat
141	Lonestar Alpha Laboratories - Oman	Soil	Sand Equivalent Value	BS EN 933 Part 8	Muscat
142	Lonestar Alpha Laboratories - Oman	Concrete	Compressive strength of concrete cube	BS EN 12390-3	Muscat – Sahar-Duqm-Salalah
143	Lonestar Alpha Laboratories - Oman	Concrete	Water permeability under pressure	BS EN 12390-8	Muscat

Seq No.	Laboratory	Field	Test Name	Test Method	Location
144	Lonestar Alpha Laboratories - Oman	Concrete	Rapid chloride permeability	ASTM C1202	Muscat
145	Lonestar Alpha Laboratories - Oman	Concrete	Chloride migration	NT BUILD 492	Muscat
146	Lonestar Alpha Laboratories - Oman	Aggregate	Aggregate Impact Value (AIV)	BS 812 Pt: 112	Muscat
147	Lonestar Alpha Laboratories - Oman	Aggregate	Particle Size Distribution	BS EN 933 - Part 1	Muscat
148	Lonestar Alpha Laboratories - Oman	Aggregate	Material Finer than 0.063 mm	BS EN 933-Part 1	Muscat
149	Lonestar Alpha Laboratories - Oman	Aggregate	Clay Lumps and Friable Particles	ASTM C142	Muscat
150	Lonestar Alpha Laboratories - Oman	Aggregate	Determination of Shell Content	BS EN 933- Part 7	Muscat
151	Lonestar Alpha Laboratories - Oman	Aggregate	Determination of Aggregate Crushing Value	BS 812- Part 110	Muscat
152	Lonestar Alpha Laboratories - Oman	Aggregate	Determination of Ten Percent Value	BS 812- Part 111	Muscat
153	Lonestar Alpha Laboratories - Oman	Aggregate	Flakiness Index	BS EN 933- Part 3	Muscat
154	Lonestar Alpha Laboratories - Oman	Aggregate	Determination of Particle Density and Water Absorption	BS EN 1097- Part 6	Muscat
155	Lonestar Alpha Laboratories - Oman	Aggregate	Determination of Acid Soluble Chloride Content	BS EN 1744- Part 5	Muscat
156	Lonestar Alpha Laboratories - Oman	Aggregate	Determination of Acid Soluble Sulphate Content	BS EN 1744- Part 1: Sec 12	Muscat
157	Lonestar Alpha Laboratories - Oman	Aggregate	Organic Impurities for Fine Aggregates	ASTM C40	Muscat

Seq No.	Laboratory	Field	Test Name	Test Method	Location
158	Element Material Technology Limited -Oman	Soil	Field Density (Sand Cone)	ASTM D1556	Sohar
159	Element Material Technology Limited -Oman	Aggregate	Reducing Samples to Testing Size	ASTM C702	Sohar
160	Element Material Technology Limited -Oman	Aggregate	Particle Size Distribution	ASTM C136	Sohar
161	Element Material Technology Limited -Oman	Aggregate	Material Finer than 0.075 mm	ASTM C117	Sohar
162	Element Material Technology Limited -Oman	Aggregate	Determination of Specific Gravity and Water Absorption of Fine Aggregate	ASTM C128	Sohar
163	Element Material Technology Limited -Oman	Aggregate	Determination of Specific Gravity and Water Absorption of Coarse Aggregate	ASTM C127	Sohar
164	Element Material Technology Limited -Oman	Aggregate	Clay Lumps and Friable Particles	ASTM C142	Sohar
165	Element Material Technology Limited -Oman	Aggregate	Lightweight Particles	ASTM C123	Sohar
166	Element Material Technology Limited -Oman	Aggregate	Flat and Elongated Particles	ASTM D4791	Sohar
167	Element Material Technology Limited -Oman	Aggregate	Los Angeles Abrasion	ASTM C131	Sohar
168	Element Material Technology Limited -Oman	Aggregate	Magnesium Sulphate Soundness	ASTM C88	Sohar
169	Element Material Technology Limited -Oman	Aggregate	Percentage of Fractured Particles	ASTM D5821	Sohar
170	Element Material Technology Limited -Oman	Aggregate	Organic Impurities for Fine Aggregates	ASTM C40	Sohar

Seq No.	Laboratory	Field	Test Name	Test Method	Location
171	Element Material Technology Limited -Oman	Aggregate	Determination of Moisture Content (Oven Drying)	BS 812 Part 109: Sec.6	Sohar
172	Element Material Technology Limited -Oman	Aggregate	Particle Size Distribution	BS EN 933 Part 1	Sohar
173	Element Material Technology Limited -Oman	Aggregate	Particle Size Distribution (Wet)	BS 812 Part 103.1-7.2	Sohar
174	Element Material Technology Limited -Oman	Aggregate	Particle Size Distribution (Dry)	BS 812 Part 103.1-7.3	Sohar
175	Element Material Technology Limited -Oman	Aggregate	Flakiness Index	BS 812 Part 105.1	Sohar
176	Element Material Technology Limited -Oman	Aggregate	Elongation Index	BS 812 Part 105.2	Sohar
177	Element Material Technology Limited -Oman	Aggregate	Flakiness Index	BS EN 933- Part 3	Sohar
178	Element Material Technology Limited -Oman	Aggregate	Determination of Particle Density and Water Absorption	BS EN 1097- Part 6	Sohar
179	Element Material Technology Limited -Oman	Aggregate	Determination of Shell Content	BS EN 933- Part 7	Sohar
180	Element Material Technology Limited -Oman	Aggregate	Uncompacted Void Content of Fine Aggregate	AASHTO T304	Sohar
181	INCO LABS - Kuwait	Aggregate	Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing	ASTM C117	Kuwait
182	INCO LABS - Kuwait	Aggregate	Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate	ASTM C128	Kuwait
183	INCO LABS - Kuwait	Aggregate	Sieve Analysis of Fine and Coarse Aggregates	ASTM C136	Kuwait
184	INCO LABS - Kuwait	Aggregate	Clay Lumps and Friable Particles in Aggregates	ASTM C142	Kuwait
185	INCO LABS - Kuwait	Aggregate	Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)	ASTM C289	Kuwait
186	INCO LABS - Kuwait	Aggregate	Sand Equivalent Value of Soils and Fine Aggregate	ASTM D2419	Kuwait

Seq No.	Laboratory	Field	Test Name	Test Method	Location
187	INCO LABS - Kuwait	Aggregate	Standard Test Method for Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	ASTM D6928	Kuwait
188	INCO LABS - Kuwait	Aggregate	Resistance of Fine Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	ASTM D7428-15	Kuwait
189	INCO LABS - Kuwait	Aggregate	Ten Percent Fine Values	BS 812: Part 106: 1990	Kuwait
190	INCO LABS - Kuwait	Aggregate	Shell Content in Coarse Aggregate	BS 812: Part 110: 1990	Kuwait
191	INCO LABS - Kuwait	Aggregate	Determination of Crushing Value	BS 812: Part 110: 1990	Kuwait
192	INCO LABS - Kuwait	Aggregate	Aggregate Impact Value (AIV)	BS 812: Part 112: 1990	Kuwait
193	INCO LABS - Kuwait	Aggregate	Chloride Salts for Aggregate	BS 812: Part 117: 1988	Kuwait
194	INCO LABS - Kuwait	Aggregate	Sulfate Content for Aggregates	BS 812: Part 118: 1988	Kuwait
195	INCO LABS - Kuwait	Concrete	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens	ASTM C39	Kuwait
196	INCO LABS - Kuwait	Concrete	Determination of Slump	BS 1881: Part 102: 1983	Kuwait
197	INCO LABS - Kuwait	Concrete	Density of Fresh Concrete	BS 1881: Part 107: 1983	Kuwait
198	INCO LABS - Kuwait	Concrete	Test Cubes from Fresh Concrete	BS 1881: Part 108: 1983	Kuwait
199	INCO LABS - Kuwait	Concrete	Method for Determination of Density of Hardened Concrete	BS 1881: Part 114: 1983	Kuwait
200	INCO LABS - Kuwait	Concrete	Compressive Strength of Concrete Cubes	BS 1881: Part 116: 1983	Kuwait
201	INCO LABS - Kuwait	Concrete	Compressive Strength of Concrete Cores	BS 1881: Part 120: 1983	Kuwait

Seq No.	Laboratory	Field	Test Name	Test Method	Location
202	INCO LABS - Kuwait	Concrete	Water Absorption	BS 1881: Part 122: 2011	Kuwait
203	INCO LABS - Kuwait	Concrete	Methods of Analysis of Hardened Concrete: Aggregate/Cement Ratio for Hardened Concrete Sulfate for Hardened Concrete Chloride for Hardened Concrete	BS 1881: Part 124: 2015	Kuwait
204	INCO LABS - Kuwait	Soil	Density and Unit Weight of Soil in Place by the Sand-Cone Method	ASTM D1556	Kuwait
205	INCO LABS - Kuwait	Soil	Laboratory Compaction Characteristics of Soil Using Modified Effort (2,700kN-m/m ³)	ASTM D1557	Kuwait
206	INCO LABS - Kuwait	Soil	California Bearing Ratio (CBR)	ASTM D1883	Kuwait
207	INCO LABS - Kuwait	Soil	Liquid Limit, Plastic Limit, and Plasticity Index of Soils	ASTM D4318	Kuwait
208	INCO LABS - Kuwait	Soil	Specific Gravity of Soil	ASTM D854	Kuwait
209	INCO LABS - Kuwait	Soil	Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation	ASTM D7928	Kuwait
210	INCO LABS - Kuwait	Soil	Moisture-Density Relations (Standard Proctor)	ASTM D698	Kuwait
211	INCO LABS - Kuwait	Soil	Soil Investigation and Sampling by Auger	ASTM D1452	Kuwait
212	INCO LABS - Kuwait	Soil	Natural Moisture Content in Soil	ASTM D2216	Kuwait
213	INCO LABS - Kuwait	Soil	Direct Shear of Soils	ASTM D3080	Kuwait
214	INCO LABS - Kuwait	Soil	Direct Shear of Soils	BS 1377-7 Part 4	Kuwait
215	INCO LABS - Kuwait	Soil	Penetration Test & Split Barrel Sampling of Soil/Determination	ASTM D1586	Kuwait
216	INCO LABS - Kuwait	Soil	Classification of Soils for Engineering Purposes - Unified Soil Classification System	ASTM D2487	Kuwait
217	INCO LABS - Kuwait	Soil	Pressure Meter Testing	ASTM D4719	Kuwait
218	INCO LABS - Kuwait	Soil	Cone Penetration Testing (CPT)	ASTM D5778	Kuwait
219	INCO LABS - Kuwait	Soil	Determination of Organic Matter Content	BS 1377: Part 3: 1990	Kuwait
220	INCO LABS - Kuwait	Soil	Penetration Resistance Using the Split Barrel Sampler (The Standard Penetration Test SPT)	BS 1377: Part 9: 1990	Kuwait
221	INCO LABS - Kuwait	Soil	Determination of Sulphate Content of Soil and Water	BS 1377: Part 3: 1990	Kuwait

Seq No.	Laboratory	Field	Test Name	Test Method	Location
222	INCO LABS - Kuwait	Soil	Determination of the Chloride Content	BS 1377: Part 3: 1990	Kuwait
223	INCO LABS - Kuwait	Soil	Determination of pH Value	BS 1377: Part 3: 1990	Kuwait
224	INCO LABS - Kuwait	Soil	Calcium Carbonate	BS 1377: Part 3: 1990	Kuwait
225	INCO LABS - Kuwait	Soil	Loss on Ignition	BS 1377: Part 3: 1990	Kuwait
226	INCO LABS - Kuwait	Bituminous	Test for Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt	AASHTO T164: (Method B)	Kuwait
227	INCO LABS - Kuwait	Bituminous	Bulk Specific Gravity of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens	AASHTO T166-16	Kuwait
228	INCO LABS - Kuwait	Underground Water	Calcium (Ca) Hardness; Magnesium (Mg) Hardness	ASTM D511	Kuwait
229	INCO LABS - Kuwait	Underground Water	Total Hardness (as CaCO ₃)	ASTM D1126	Kuwait
230	INCO LABS - Kuwait	Underground Water	Carbonate (CO ₃); Bi-Carbonate (HCO ₃)	ASTM D3875	Kuwait
231	INCO LABS - Kuwait	Underground Water	Total Suspended Solids (TSS)	ASTM D5907	Kuwait
232	INCO LABS - Kuwait	Underground Water	Chemical Oxygen Demand (COD)	BS 6068	Kuwait
233	INCO LABS - Kuwait	Underground Water	Sulphate Content of Water	BS 1377: Part 3: 1990, 5.3	Kuwait
234	INCO LABS - Kuwait	Underground Water	Chloride Content of Water	BS 1377: Part 3: 1990, 7.2	Kuwait
235	INCO LABS - Kuwait	Underground Water	Total Dissolved Solids (TDS) in Water	BS 1377: Part 3: 1990, 8.1	Kuwait
236	INCO LABS - Kuwait	Underground Water	pH Value of Water	BS 1377: Part 3: 1990	Kuwait
237	INCO LABS - Kuwait	Underground Water	Potassium (K)	SM317	Kuwait
238	INCO LABS - Kuwait	Underground Water	Sodium (Na)	SM320	Kuwait
239	INCO LABS - Kuwait	Underground Water	Dissolved Oxygen (DO)	SM422	Kuwait