



Quality Technical Services, (NAL 095)

Calibration Laboratory, MW4 - Mussafah Industrial Area, Abu Dhabi, UAE.

Issue No.: 3

Issue Date: 30/08/2018

Calibration Field/ Quantity/ Property	Measurand / Equipment	Measuring Range	CMC (k=2)	Calibration Method (standard/ internal procedure)	Permanent lab (P) / Client-site (S)
Mass	Precision Weighing Balance	(0 to 220) g	0.3 mg	Calibration Method as per the standard Euramet cg-18 & QTS/WP-02 Reference standard(s) used : E2 Weight Set 1 mg to 220 g	Р
	Electronic Weighing Balance	(0 to 1000) g (0 to 6000) g (1 to 30) kg	2.7 mg 30 mg 0.18 g	Calibration Method as per the standard Euramet cg-18 Reference standard(s) used : F1 Weight Blocks	Р
	Electronic Weighing Balance	(10 to 50) kg (10 to 500) kg	4.1 g 8.4 g	Calibration Method as per the standard Euramet cg-18 Reference standard(s) used : M1 Weight Blocks	P/S
	Conventional mass	10 g 20 g 50 g 100 g 200 g 500 g 1000 g 2000 g 5000 g	0.2 mg 0.3 mg 0.3 mg 0.5 mg 1.0 mg 3.0 mg 5.0 mg 10 mg 25 mg	Calibration Method: Substitution Weighing method as per the standard OIML R111-1-2014 Reference standard(s) used: F1 Weight Blocks, for Calibration of F2, M1, M2 and M3 masses	Р
	Conventional mass	10 kg 20 kg	0.2 g 0.3 g	Calibration of M1, M2 and M3 masses	Р
	Batching Plant	(0 - 5000) kg	2% Wi	Calibration method : QTS/WP-10 Reference standard(s) used: M1 Weights up to 500kg then accumulative weighing up to 5000 kg, Where Wi is the Indicated Weight.	S

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Force	Compression Machine Stability Testing	(200 - 2000) kN	0.10 % Fi	Calibration Method: QTS/WP-16 Based on BS EN 12390-4:2000 Reference standard(s) used: Strain Gauge Cylinder Load Cell 3000kN, Where Fi is the Indicated Force	S
	Compression Machine	(5 - 50) kN (30 - 300) kN	0.10 % Fi 0.15 % Fi	Calibration Method: ISO 7500- 1:2018 & QTS/WP-01 Reference standard(s) used: Strain Gauge Load Cell 300kN, Where Fi is the Indicated Force	S
	Compression	(300 - 600) kN	0.4 % Fi	1:2018 & QTS/WP-01 Reference standard(s) used: Strain Gauge Load Cell 3000kN, Where Fi	S
	Machine	(600 - 3000) kN	0.3 % Fi		
	Proving Ring	(5 - 50) kN (50 - 200) kN	0.45 % 0.63 %	Calibration Method: QTS/WP-18 Reference standard(s) used: Strain Gauge Load Cell 50kN & 300 kN	P/S
Dimensional	Vernier Caliper	(0 - 150) mm (0 - 300) mm (0 - 500) mm	20 µm 30 µm 32 µm	Calibration Method: QTS/WP-05 Reference standard(s) used: Mitutoyo Grade "0" Gauge Blocks.	Р
	Feeler Gauge	(0 - 1) mm	3.4 µm	Calibration Method: QTS/WP-12 Reference standard(s) used: Precision Dial Gauge with Granite dial stand	Р

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Dimensional	Thickness Gauge	(0 - 50) mm	12.5 µm	Calibration Method: QTS/WP-13 Reference standard(s) used: Grade "0" Gauge Blocks.	Р
	Steel Ruler	(0 - 1000) mm	0.63 mm	Calibration Method: QTS/WP-14 Reference standard(s) used : Tape/Scale -Length Measuring Machine	Р
	Measuring Tape	(0 - 5000) mm (0 - 10000) mm	1.2 mm 1.8 mm		
	Dial Gauge (Plunger Type)	(0 - 25) mm	5 µm	Calibration Method: QTS/WP-07 Reference standard(s) used: Mitutoyo Grade "0" Gauge Blocks.	Р
Pressure	Pressure Gauge	(0 to 40) bar (40 to 600) bar (600 to 1000) bar	0.4 bar 1.3 bar 4.5 bar	Calibration Method: DKD R 6-1 / BS EN 837-1:1998 Reference standard(s) used: Wika Digital Pressure Gauge with pump and Digital Compound Gauge with pump. AEP Digital Pressure gauge with Dead Weight Tester.	P/S
	Vacuum Gauge	(-0.9 to 0) bar	0.3 bar		
Temperature	Digital - Direct Contact Thermometer	(-15 to 50) °C (50 to 200) °C (200 to 600) °C	0.24 °C 0.36 °C 0.69 °C	Calibration Method: QTS/WP-03 Reference standard(s) used : Dry Blocks as heat sources with PT- 100 Reference Thermometer	Р
	Dial Thermometer	(-10 to 50) °C (50 to 250) °C	0.72 °C 1.2 °C	Calibration Method: QTS/WP-03 Reference standard(s) used : Dry Blocks as heat sources with PT- 100 Reference Thermometer	Р
	Muffle Furnace	(0 to 800) °C	1.8 °C	Calibration Method: QTS/WP-19 (Single Point) Reference standard (s) used: Hioki Test Equipment.	P/S

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Temperature	Drying Oven	(-20 to 250) °C	1.8 °C	Calibration Method: DKD R 5-7 & QTS/WP-04 Reference standard (s) used: Hioki Test Equipment.	
	Chillers, Incubators	(-20 to 50) °C	1.4 °C		P/S
	Freezers	(-20 to 50) °C	1.4 °C		
END					