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IAS Accreditation Number	CL-128
Accredited Entity	United Testing Systems, Inc.
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Effective Date of Scope	July 1, 2018
Accreditation Standard	ISO/IEC 17025:2005

CALIBRATION AREA	RANGE & RESOLUTION	CALIBRATION & MEASUREMENT CAPABILITY[1] (CMC) (±)	TECHNIQUE, REFERENCE STANDARD, EQUIPMENT
Mechanical			
Force – Compression and Tension	Up to 500,000 lb.-ft.	0.05% IR	Master Load Cells per ASTM E74 and ASTM E4 Procedure 100 and 105
Machine and Specimen Alignment	Up to 100% Bending	2.1% Bending	30,000 lbf Alignment Bar, Data Acquisition System, ASTM E1012 Procedure 290
Crosshead Speed	Up to 40 in. per min	0.001 in per 0.12 minute	ASTM E2309 Stopwatch, Dial Indicator, Procedure 315
Crosshead Displacement	Up to 2 in. Up to 20 in.	0.001 in. 0.003 in.	ASTM E2658 Dial/Digital Indicator, UTS Height Gage Procedure 315
Pressure Gages	Up to 5 PSI 5 PSI to 500 PSI 500 PSI to 10,000 PSI	0.15% IR 0.05% IR 0.06% IR	Pressure Transducer, UTS Procedure 320
Brinell Hardness (Indirect)	95 HBW to 200 HBW 200 HBW to 300 HBW 300 HBW to 400 HBW 400 HBW to 500 HBW 500 HBW to 600 HBW 600 HBW to 650 HBW	1 HBW 2 HBW 3 HBW 4 HBW 5 HBW 6 HBW	Indirect Verification per ASTM E10 Procedure 175
Brinell Hardness (Direct)	500 kgf 1000 kgf 1500 kgf 3000 kgf	0.05% IR 0.05% IR 0.05% IR 0.05% IR	Direct Verification per ASTM E10 Procedure 180
Indirect Verification of Rockwell &	HRA: (80 to 84) HRA (70 to 78) HRA	 0.19 HRA 0.31 HRA	Indirect verification per ASTM Standard E18 with

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Rockwell Superficial Hardness Testers	(20 to 65) HRA	0.29 HRA	NIST traceable blocks, Procedure 165
	HRBW		
	(80 to 100) HRBW	0.39 HRBW	
	(60 to 79) HRBW	0.30 HRBW	
	(40 to 59) HRBW	0.42 HRBW	
	HRC		
	(60 to 65) HRC	0.31 HRC	
	(35 to 55) HRC	0.38 HRC	
	(20 to 30) HRC	0.40 HRC	
	HRD		
	(71 to 75) HRD	0.18 HRD	
	(51 to 67) HRD	0.31 HRD	
	(40 to 48) HRD	0.27 HRD	
	HREW		
	(93 to 100) HREW	0.49 HREW	
	(84 to 90) HREW	0.49 HREW	
	(70 to 79) HREW	0.49 HREW	
	HRFW		
	(94 to 100) HRFW	0.45 HRFW	
	(80 to 90) HRFW	0.44 HRFW	
	(60 to 75) HRFW	0.28 HRFW	
	HRGW		
	(80 to 94) HRGW	0.43 HRGW	
	(55 to 75) HRGW	0.29 HRGW	
	(30 to 50) HRGW	0.82 HRGW	
	HRHW		
	(96 to 100) HRHW	0.36 HRHW	
	(80 to 94) HRHW	0.36 HRHW	
	HRKW		
	(85 to 100) HRKW	0.25 HRKW	
	(65 to 80) HRKW	0.36 HRKW	
	(40 to 60) HRKW	0.54 HRKW	
	HRLW	0.20 HRLW	
	HRMW	0.54 HRMW	
	HRPW	0.36 HRPW	

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	HRRW	0.23 HRRW	
	HRSW	0.35 HRSW	
	HRVW	0.79 HRVW	
	HR15N		
	(90 to 92) HR15N	0.53 HR15N	
	(78 to 88) HR15N	0.43 HR15N	
	(70 to 77) HR15N	0.41 HR15N	
	HR30N		
	(77 to 82) HR30N	0.52 HR30N	
	(55 to 73) HR30N	0.47 HR30N	
	(42 to 50) HR30N	0.42 HR30N	
	HR45N		
	(66 to 72) HR45N	0.23 HR45N	
	(37 to 61) HR45N	0.27 HR45N	
	(20 to 31) HR45N	0.59 HR45N	
	HR15TW		
	(87 to 93) HR15TW	0.29 HR15TW	
	(81 to 86) HR15TW	0.39 HR15TW	
	(74 to 80) HR15TW	0.41 HR15TW	
	HR30TW		
	(70 to 83) HR30TW	0.36 HR30TW	
	(57 to 69) HR30TW	0.29 HR30TW	
	(43 to 56) HR30TW	0.66 HR30TW	
	HR45TW		
	(53 to 73) HR45TW	0.43 HR45TW	
	(33 to 7352 HR45TW	0.40 HR45TW	
	(13 to 32) HR45TW	0.70 HR45TW	
	HR15WW	0.26 HR15WW	
	HR30WW	0.56 HR30WW	
	HR45WW	0.31 HR45WW	
	HR15XW	0.19 HR15WX	
	HR30XW	0.26 HR30XW	

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	HR45XW HR15YW HR30YW HR45YW	0.76 HR45XW 0.22 HR15YW 0.43 HR30YW 0.24 HR45YW	
Depth	Up to 0.5 µm	0.1 µm	Direct verification per ASTM E18, Hardness Blocks Procedure 280
Extensometers	Up to 2 in./ 0.0001 in. 2 in. to 10 in./ 0.0001 in.	0.00001 in. 0.002 in.	Verified per ASTM E83 Height Gage, Gage Blocks Procedure 115 and 125
Micrometer	Up to 1 in./ 0.00005 in.	0.00015 in.	UTS proc. 210, Gage blocks, Temp. recorder
Height Gage	Up to 36 in./ 0.0015 in.	0.0011 in.	UTS proc. 381, Gage Blocks, setting standards, Temp recorder
Calipers	Up to 6 in./ 0.0005 in.	0.00073 in.	UTS Proc. 211, Caliper checker, Ring gage, Temp recorder
Scales	Up to 100 kgf	.003 kgf	Class F1 Weights, UTS Procedure 200
Indirect Verification of Hardness -Vickers	100 HV to 249 HV 250 HV to 600 HV 600 HV and higher	12.0 HV 5.3 HV 29 HV	Indirect Verification per ASTM E92 Procedure 380
Indirect Verification of Hardness -Knoop	100 HK to 600 HK/1 HK Unit 600 HK/1 HK Unit and higher	7.0 HK 17 HK	Indirect Verification per ASTM E92 Procedure 380
Optical Comparators	Various ranges up to 50X/0.0001 in.	Linear: 0.0002 in. or Manufacturer's Specification Angularity: 8 minutes or Manufacturer's Specification Magnification: ± 1 Division Squareness: ± 0.001º	Per Manufacturer's Specification / UTS Procedure 185
Torque	Up to 250 lb.-ft.	2.053 lb.-ft.	250 lb.-ft. Torque cell, UTS Proc. 240

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Electrical/DC/Low Frequency			
DC Voltage - Measure	Up to 10 mV Up to 100 mV Up to 1 V Up to 10 V Up to 100 V	0.006% IR + 40 nV 0.004% IR + 0.5 µV 0.0032% IR + 3 µV 0.0032% IR + 30 µV 0.0052% IR + 500 µV	Keithley 2182 Procedure 360
Thermal			
Laboratory Thermometers	10°C to 50°C	0.3°C	Dry Block Standard UTS Procedure 295
Ovens, Furnaces, Presses	-100°C to 1800°C	1.4°C	ASTM E145 Keithley Martel Procedure 140 and 145
Relative Humidity – Measure	40% to 80% 10% to 90%	2.5% R.H. 5% R.H.	Digital Hygrometer, UTS Procedure 340

[1]"Calibration and Measurement Capability" is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or of nearly ideal measuring instruments. Calibration and Measurement Capabilities are expressed as uncertainties at approximately the 95% level of confidence, usually using a coverage factor of k=2. The measurement uncertainty of a specific calibration performed by the laboratory may be greater than the least uncertainty due to the behavior of the customer's device, to the environment (if the calibration is performed in the field), and to influences from the circumstances of the specific calibration.