

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

TSP / USB LABORATORY<sup>1</sup>  
12895 South Main Street  
Houston, TX 77035  
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MECHANICAL

Valid To: June 30, 2012

Certificate Number: 0929.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on fasteners, metals and alloys:

<u>Test</u>	<u>Test Methods</u>
Hardness	
Rockwell (B & C)	ASTM A370, E18, F606, F606M
Brinell	ASTM A370, E10, F606, F606M
Tensile (axial , tension testing, total extension at fracture, wedge, yield)	ASTM A370, F606, F606M; SAE J429
Proof (internally and externally threaded)	ASTM A370, F606, F606M; SAE J429, J995
Discontinuities	ASTM F788, F812; SAE J122, J123
Impact	ASTM A370, A540, E23
Plating thickness	ASTM B499
Metallographic evaluation:	
Macroetch	ASTM E340, E381
Decarburization	ASTM E1077; SAE J419, J121
Grain size	ASTM E112
<u>Chemical</u>	
Optical Emission Spectroscopy on Steel, Stainless Steel and Nickel Base Alloys	ASTM E415, E1086

<sup>1</sup> This accreditation covers testing performed at the main laboratory listed above, and at the satellite laboratory indicated below.

I. Dimensional Testing

Parameter	Range	CMC* ( $\pm$ )	Technique	Standards
Angle	0° to 360°	1 °	Optical comparator	MIL-STD-120
Radius	(0 to 0.650) in	2000 $\mu$ in	Optical comparator	MIL-STD-120
Threads – Systems 21 & 22	(¼ to 4) in (¼ to 3 ¼) in (¼ to 3) in (0 to 4) in	500 $\mu$ in N/A N/A 600 $\mu$ in	Tri- Rolls Ring Gages Plug Gages Pitch Micrometers	ASME B1.3M ANSI/ASME B1.2 FED-STD-H28/20 AS 8879
Linear	(0 to 4) in (0 to 6) in (0 to 12) in (0 to 24) in (0 to 20) in	1000 $\mu$ in 500 $\mu$ in 1000 $\mu$ in 1500 $\mu$ in (12 + 38L**) $\mu$ in	Optical Comparator Micrometer Calipers Height Gage Gagemaker Micrometer	MIL-STD-120 MIL-STD-120 MIL-STD-120 MIL-STD-120 MIL-STD-120

\*“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 inspections of nearly ideal measurement standards with nearly ideal measuring equipment. Calibration and measurement capabilities represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific test performed by the laboratory may be greater than the best uncertainty due to the behavior of the customer’s device and to influences from the circumstances of the specific measurement.

\*\* In the statement of CMC,  $L$  is the numerical value of the nominal length of the device measured in inches.

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 3303 W. 12th Street  
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**Test**

**Test Methods**

Hardness  
 Rockwell (B & C)  
 Discontinuities  
 Plating thickness

ASTM A370, E18, F606, F606M  
 ASTM F788, F812; SAE: J122, J123  
 ASTM B499

II. Dimensional Testing

Parameter	Range	CMC* (±)	Technique	Standards
Angle	0° to 360°	1 °	Optical comparator	MIL-STD-120
Radius	(0 to 0.650) in	2000 µin	Optical comparator	MIL-STD-120
Threads – Systems 21	(¼ to 3 ¼) in	N/A	Ring Gages	ANSI/ASME B1.2
	(¼ to 3) in	N/A	Plug Gages	FED-STD-H28/20
	(0 to 4) in	600 µin	Pitch Micrometers	
Linear	(0 to 4) in	1000 µin	Optical Comparator	MIL-STD-120
	(0 to 6) in	500 µin	Micrometer	MIL-STD-120
	(0 to 12) in	1000 µin	Calipers	MIL-STD-120
	(0 to 18) in	1500 µin	Height Gage	MIL-STD-120

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