THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

TSP/USB LABORATORY
Houston, TX

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 18 June 2005*).

Presented this 20th day of June 2006.

AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION
CORPORATE SEAL 1978 DISTRICT OF COLUMBIA
A2LA

President
For the Accreditation Council
Certificate Number 929.01
Valid to June 30, 2008

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

TSP / USB LABORATORY
12895 South Main Street
Houston, TX 77035
Lester Burgess Phone: 713 726 1000

MECHANICAL

Valid To: June 30, 2008 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 and metals and alloys:

Test	Test Methods
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
Chemical	
Optical Emission Spectroscopy on Steel, Stainless Steel and Nickel Base Alloys	ASTM E415, E1086;

I. Dimensional Testing

Parameter	Range	Best Uncertainty* (±)	Technique	Standards
Angle	0° to 360°	1 °	Optical comparator	MIL-STD-120
Radius	(0 to 0.650) in	0.002 in	Optical comparator	MIL-STD-120

*** Accredited testing capabilities also performed at laboratory location:**
1519 Fulton Street, Houston, TX 77009 ph: (713) 230-2500

Threads – Systems 21 & 22	(¼ to 4) in (¼ to 3 ¼) in (¼ to 3) in (0 to 4) in	0.0005 in N/A N/A 0.0006 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 24) in	0.001 in 0.0005 in 0.001 in 0.0015 in 0.00005 in	Optical Comparator Micrometer Calipers Height Gage Gagemaker Micrometer	MIL-STD-120 MIL-STD-120 MIL-STD-120 MIL-STD-120 MIL-STD-120

*"Best Uncertainty" 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. Best uncertainties represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The best uncertainty of a specific test performed by the laboratory may be greater than the best uncertainty due to the behavior of the customer's test piece, to the environment (if the dimensional inspection is performed in the field) and to influences from the circumstances of the specific test.

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