The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

BBC FASTENERS, INC.

Alsip, IL

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 8 January 2009*).

Presented this 29th day of September 2009.

President & CEO
For the Accreditation Council
Certificate Number 0234.01
Valid to August 31, 2011

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

BBC FASTENERS, INC.
4210 Shirley Lane
Alsip, IL 60803
David Cronin Phone 708 597 9100

MECHANICAL

Valid To: August 31, 2011 Certificate Number: 0234.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following threaded fastener tests:

Test	Test Methods
Sampling	ASTM A183, A193, A193M, A307, A320, A320M, A574, A574M, F835, F1470; ASME/ANSI B18.18.2M, B18.18.3M, B18.18.4M
Hardness	
Brinell (<450 HB)	ASTM A370 (Sections 16 & 17), E10
Rockwell (HRB, HRC, 30N)	ASTM A370 (Section 18), E18
Tension (300,000 lbs max)	
(1.5" Diameter Max)	
Axial	ASTM F606 (Sections 3 & 4), F606M (Sections 3 & 4)
Wedge (4º, 6º, 10º)	ASTM F606, F606M; SAE J82, J429, J1199, J1216
Yield, Elongation & Reduction of Area	ASTM A370 (Sections 5-13), E8, E8M, F606 (Sections 3 & 4), F606M (Sections 3 & 4); SAE J1216
Shear: Single (5/8 in, 3/4 in)	ASTM A394, F606; MIL-STD-1312-20
Miscellaneous	
Proof (external threads)	ASTM F606, F606M; SAE J995, J1216
Discontinuities (visual)	ASTM F788, F788M, F812, F812M; SAE J123, J1061
Plating Thickness	ASTM B499
Magnetic Particle	ASTM E709

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Dimensional Testing

Parameter	Range	Best Uncertainty* (±)	Technique	Standards
Radius	(0.005 to 0.5) in	0.01 in	Comparator	MIL-STD-120
Threads –				
Pitch micrometer	(0.5 to 3) in	0.0005 in	Pitch micrometer	ASME B1.2, B1.3M
Go/No-Go gages	(0.5 to 3) in	N/A	Go/No-Go gages	
Length	(0.001 to 6) in	0.001 in	Micrometer	MIL-STD-120
	(0.001 to 24) in	0.01 in	Caliper	
	(0.001 to 8) in	0.002 in	Comparator	
Bolt Straightness	(0.002 to 0.100) in	N/A	Straightness gage	ASME B18.2.1
Angle	(0 to 180) degrees	2 degrees	Comparator	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.