Miami-Dade County, Florida
Building Code Compliance Office
Suite 1603
140 West Flagler Street
Miami, Florida 33130-1563
(305) 375-2901
Fax (305) 375-2908

Laboratory Certificate

MIAMI-DADE COUNTY APPROVED

This certifies that Stork Twin City Testing Corporation located at 662 Cromwell Ave., St. Paul, MN 55114 is an approved Testing Laboratory in accordance with Miami-Dade County Building Code Compliance and Protocol TAS301-94, and is Certified to perform the following tests:

TAS202
ASTM B117
ASTM D1761
ASTM E90
ASTM E547
ASTM E588
ASTM E842
ASTM E987
ASTM E1105

AAMA 103.3 (Section 5)
AAMA 1302.5
AAMA 1303.5
NAVLAP LAB CODE 200046-0 Certificate
IAS Certificate TL-217
A2LA Certificate No. 1479-01

Results of the above mentioned test shall be properly submitted to the Miami-Dade County Building Code Compliance Office per TAS301-94, along with all other documentation required for the approval of products. Approved engineer(s) for this laboratory:

Thomas A. Kolden, P.E.

This Certification and Registration Approved: **April 08, 2009**
This Certification and Registration Expires : **September 25, 2013**

Certification No. : **09-0303.30** *Revises: 04-1018.02*

Jaime D. Gascon
Product Control Inspector
Product Control Division

Americo Segura
BCC-Quality Assurance Supervisor
Product Control Division

The Miami-Dade County Building Code Compliance Office reserves the right to remove this certification for non-compliance with rules and regulations as set by Protocol TAS301-94.

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THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

STORK TWIN CITY TESTING CORPORATION

St. Paul, MN

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 January 2009*).

Presented this 18th day of February 2009.

President
For the Accreditation Council
Certificate Number 1479.01
Valid to December 31, 2010

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

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

STORK TWIN CITY TESTING CORPORATION
662 Cromwell Avenue
St. Paul, MN 55114-1776
Amy Ostergren Phone: 651 659 7303

MECHANICAL

Valid To: December 31, 2010 Certificate Number: 1479.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on the following products or types of products: adhesives and sealants; automotive components; coatings; construction materials: consumer products; electronics and electromechanical assemblies; fasteners; fiberglass; furniture; glass; geotextiles: hoses: insulation; mattresses; medical devices: metal and alloys: packaging; plastics and polymers: pipes; tapes: valves and fitting; pressure vessels; rubber and elastomers; textiles: windows and doors and weldments:

Test	Test Method(s)
Bedding	
Standard Test Methods for Evaluation of Innersprings and Box Springs	ASTM F1566 (6, 7 & 9)
Standard Test Methods for Flexible Cellular Materials-Slab, Bonded, and Molded Urethane Foams	ASTM D3574 (BI & B2)
Chemistry	
FTIR (Infrared Spectrometry)	SOP CHEM-01
Gas Chromatography/Mass Detector	SOP CHEM-06
Lead In Paint by ICP	16 CFR 1303, SOP CHEM-18
	16 CFR 1508, SOP CHEM-18
	16 CFR 1509, SOP CHEM-18
	16 CFR 1511, SOP CHEM-18
Hexavalent Chromium	SM3500-CrD
ICP	SOP CHEM-14
Leco — Combustion with Infrared Detection – Carbon, Sulfur	ASTM E1019; SOP CHEM-07
Leco – Thermoconductivity Detection – Nitrogen, Oxygen	ASTM E1019; SOP CHEM-09
Leco – Nitrogen & Oxygen in Titanium	ASTM E1019, E1409; SOP CHEM-09
Optical Emission Spectroscopy – Aluminum	ASTM E1251; SOP CHEM-10
Optical Emission Spectroscopy — Cast Iron	ASTM E1999; SOP CHEM-10
Optical Emission Spectroscopy — Copper Base	TCT SOP CHEM-10
Optical Emission Spectroscopy — Iron Based (Carbon and Low Alloy)	ASTM E415; SOP CHEM-10
Optical Emission Spectroscopy — Stainless Steel	ASTM EI086; SOP CHEM-10
Optical Emission Spectroscopy — Titanium Base	TCT SOP CHEM-10
SEM (failure analysis) with EDS	SOP MT93, MT94
Environmental Simulation	
Standard Testing for Water Resistance of Coatings in 100% Relative Humidity	ASTM D2247
Dielectric withstanding voltage	MIL-STD-202G (Method 301)
Fluorescent UV-Condensation Light- and Water-Exposure (QUV)	ASTM G53, G154
Highly Accelerated Lifetime Testing (HALT)	SOP PT-18
Highly Accelerated Stress Screening (HASS)	SOP PT-18

Test	Test Method(s)
Environmental Simulation continued	
Humidity (Cyclic and Steady State)	MIL-STD-810E (Method 507.3), MIL-STD-202G (Method 103B)
Insulation resistance	MIL-STD-202G (Method 302)
Mechanical Vibrations of Shipboard Equipment	MIL-STD-167, sec. 5.1.3
Moisture Resistance	MIL-STD-202G (Method 106G)
Salt Spray (Fog)	MIL-STD-810E (Method 509.3), MIL-STD-202G (Method I0IE); ASTM B117; GM4298P; ISO 9927; JIS Z 2371; MIL STD 810, NASM 1312-1
Modified Salt Spray	ASTM G85, Annex 5
Shock, Physical & Thermal	MIL-STD-810E (Method 5l6.4), MIL-STD-202G (Method 107G)
Vibration	MIL-STD-202G (Method 201A, 214A Condition A-E)
Water Fog Humidity Test	ASTM D4585; MIL STD 753 (Method 101); NASM 1312-3
Xenon-Arc Light Exposure, With and Without Water	ASTM D2565, G155
Flammability	
Flammability	FMVSS 302; 16 CFR 1632, 16 CFR 1633
Flammability Test Method for Automobile Interior Materials	Honda HES D6003
Flammability of Polymeric Interior Materials — Horizontal Test Method	SAE J369
Flammability Test Procedure for Mattresses for US in Public Buildings	CA TB 129
Flammability Test Procedure for Seating Furniture for Use in Public Occupancies	CA TB 133, Criteria B
Requirements and Test Procedures for Resistance of a Mattress/Box Spring Set to a Large Open Flame	CA TB 603
Test Procedure for Testing Flame Retardance of Resilient Filling Materials Used in Upholstered Furniture	CA TB 117
Hardness	
Brinell	ASTM E10, F606/F606M
Rockwell (A, BW, C, 15N, 30N, 45N, 15T, 30T)	ASTM A370, E18, F606/F606M; ISO 898-1, 898-2, 6508; MIL STD NASM 1312-6;
Micro Hardness, Vickers and Knoop	ASTM E384, F606/F606M; NASM 1312-6; JIS B1052, B1053; SAE J417, 1429
Material Testing	
Abrasion Resistance by the Taber Abraser	ASTM D4060
Aging of Plastics	ASTM D2126
Apparent Density Plastics	ASTM D1622
Cellulosic Fiber Board Properties	ASTM C209
Coefficient of Friction — Static and Kinetic	ASTM D1894
Compressive Properties of Rigid Plastics	ASTM D695, D1621
Durometer Hardness	ASTM D2240
Flexural Properties of Plastics	ASTM D790
Gloss	ASTM D523

Test	Test Method(s)
Materials Testing continued	
Impact Resistance of Plastic by Tup (Falling Weight)	ASTM D5420
Izod Impact Plastics	ASTM D256
Rubber Properties in Tension	ASTM D412
Standard Atmospheres for Conditioning and Testing	ASTM D618
Tear Strength of Rubber and Elastomers	ASTM D624
Thermal Transmission Properties	ASTM C518
Tensile Properties of Plastics	ASTM D638
Tensile Properties of Thin Plastics	ASTM D882
Water Absorption	ASTM C272
Water Vapor Transmission	ASTM E96
Metallography	
Alpha Case Contamination	AMS 4928, 4967; ASTM F67, F136
Banding/Orientation (Non-Dimensional)	ASTM E1268
Carburization/Decarburization (Visual and Hardness) and Case Depth	ASTM A574, E1077; ISO898-1, 898-5, 4570; SAE J78, J81, J121, J419, J423, J933
Copper Sulfate Test for Free Iron on the Surface of Metals	ASTM A380; AMS QQ P 35; MIL STD 753 (Method 102)
Examination and Evaluation of Pitting Corrosion	ASTM G46; BSS-7219
Grain Size (Comparison)	ASTM E112, E181, E930; GEAE R50TF133; ISO 643; SAE J418
Intergranular Attack or End Grain Pitting on Metals	ASTM A262 (Methods A & E), F2111; BSS7219
Macroetching (Grain Flow)	ASTM A604, E340, E381; ISO6157-1, 6157-3; SAEJ123, J1061
Measurement of Coating Thickness	ASTMB 487 using Computer Imaging
Microetching	AMS 2643; ASTM E407
Metals and Metal Products, Fasteners	
Axial Tensile Strength of Full Sized Threaded Fasteners	AC 118, ASTM F606/ F606M; BAC D2-2860; NASM1312-108; ISO898-1, 6892; JIS B 1051; NASM1312-8;
Bend, Guided and Semi-Guided (Welds)	SAEJ82, J429, J1199, J1216 ASME Section IX; AWS D1.1, D1.2, D1.3, D1.4, D1.5, D17.1
Bend Test (General)	ASTM A615, E290; NASM 6812
Coating Weight	ASTM A90
Fatigue (Product Test)	ASTM E466, F1717; Honda drawings 5121Z-GHA-6200
Full Sized Eye Bolts: Bend Test, Breaking Strength and Proof Load	ASTM F541
Impact, Notched Bar	ASTM A370, A673, E23; AWS D1.5; DTW 766; EN10045; JIS Z 2202, B 7722
Lap Shear	AC118; ASTM D1002; MIL STD/NASM1312-4
Proof Load of Full Sized: Externally Threaded Fasteners	AASHTO T244; ASTM A370, F606/F606M; ISO 898-1; JIS B 1051; SAEJ429, J1216

Test	Test Method(s)
Metals and Metal Products, Fasteners continued	
Proof Load Yield: Internally Threaded Fasteners	ASTM A194/A194M, A370, F606/F606M, F812/F812M; BPS N 70; IFI 533; ISO 898-2, 898-6; JIS B1052, B1056; NASM 25027; NAS 3350; SAE J995, J122
Stress Durability: Externally Internally Threaded Fasteners	ASTM A143; BAC N 10; Chrysler PS9500; NASM 1312-5, 1312-14,
Tension Test-Ambient Temperature	ASTM A370, B557, E8, F606/F606M, AASHTO-M31; ISO 898-1, 3506; JIS B1051; NASM 1312-8; SAE J429, J1199, J1216
Total Extension at Fracture of Externally Threaded Fasteners	ASTM E3, F606/606M; ISO898-1, 3506; JIS B1054
Wedge Tensile of Full Sized Threaded Fasteners	AASHTO T244; ASTM A370, F606/F606M; NASM1312-108;ISO 898-1; JIS B 1051; MIL STD/NASM 1312-8; SAE J82, J429, J1199, J1216
Surface Discontinuities – Internally Threaded Fasteners*	ASTM F812/F812M; BPSN70; FF N 836; ISO 898-2;
Surface Discontinuities – Externally Threaded Fasteners*	ASTM F788/F788M; NASM 857 ISO 898-1; SAE J122, J123, J1061
Office Furniture	
Furniture Strength/Serviceability	ANSI/BIFMA X5.1 – X5.6
Package Testing	
Standard Practice for Performance Testing of Shipping Containers and Systems	ASTM D4169
Windows and Door Services (Including Acoustics)	
Classification for Rating Sound Insulation	ASTM E413
Field Measurements of Airborne Sound Insulation of Building Facades, and Facade Elements	ASTM E966**
Field Measurement of Tapping Machine Impact Sound Transmission through Floor Ceiling Assemblies and Associated Support Structures	ASTM E1007**
Laboratory Tests on Noise Emission from Appliances and Equipment used in Water Supply installations	ISO-3822
Measurement of Airborne Sound Insulation in Buildings	ASTM E336
Measurement of Airborne-Sound Transmission Loss of Building Partitions	ASTM E90
Sound Absorption and Sound Absorption Coefficients by Reverberation Room Method	ASTM C423

* Please note that aircraft fasteners are inspected to the individual requirements of the procurement specification or fastener print. Each specification has it own evaluation requirements.
** This laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these tests or calibrations.

International Accreditation Service, Inc.

CERTIFICATE OF ACCREDITATION

This is to signify that

STORK–TWIN CITY TESTING CORPORATION
662 CROMWELL AVENUE
ST. PAUL, MINNESOTA 55114-1776

Testing Laboratory TL-217
(Revised February 19, 2008)

has demonstrated compliance with ANS/ISO/IEC Standard 17025:2005, *General criteria for the competence of testing and calibration laboratories*, and has been accredited, commencing February 21, 2007, for the test methods listed in the approved scope of accreditation.

Patrick V. McCullen
Vice President

C. P. Ramani, P.E.
President

(see attached scope of accreditation for fields of testing and accredited test methods)

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation, or revocation of accreditation. See the IAS *Accreditation Listings* on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 699-0541. Print Date: 03/20/2008

International Accreditation Service, Inc.

SCOPE OF ACCREDITATION

Stork-Twin City Testing Corporation TL-217

(Revised February 19, 2008)

Stork-Twin City Testing Corporation
662 Cromwell Avenue
St. Paul, Minnesota 55114-1776

Tom Kolden, P.E.
Technical Services Manager
(651) 645-3601

FIELDS OF TESTING	ACCREDITED TEST METHODS
Concrete and aggregates, bricks, stone and tile	ASTM Standards C 31, C 33, C 39, C 42, C 67, C 78, C 109, C 138, C 172, C 192, C 234, C 260, C 330, C 403, C 494, C 511, C 567, C 617, C 618, C 666, C 1018, C 1116 and C 1399; 1997 UBC Standard 15-5; ICC-ES Acceptance Criteria AC32 (Except Section 4.9), AC51, AC208 and AC217
Acoustics	ASTM Standards C 423, E 90, E 336, E 413 and E 1007; ANSI Standard S12.31; ISO Standards 3822-1, 3822-2, 3822-3 and 3822-4
Environmental exposure	ASTM Standards D 2565, E 283, E 330, E 331 and E 547
Nails and fasteners	ASTM Standards A 641, D 1761, D 5764, E 18, F 1575 and F 1667; ICC-ES Acceptance Criteria AC70, AC95, AC116 (Sections 3.2-3.10), AC118, AC120 and AC257
Physical/structural	ASTM Standards C 272, C 557 (Section 10.7), D 1037, D 2164, D 2412, E 72, E 96, E 455 and E 1803; ANSI/AHA Standards A135.4, A135.6, and A194.1; ICC-ES Acceptance Criteria AC04 (Sections 4.1-4.6), AC11 (Section 5.4), AC92, AC145, AC174, and AC273
Rigid, cellular polystyrene thermal insulation	ASTM Standards C 165, C 203, C 209, C 303, C 518, C 550, C 578 (Sections 11.1-11.9), D 638, D 1621, D 1622 and D 2126
Anchors	ASTM Standards E 488 and E 1512; ICC-ES Acceptance Criteria AC01, AC58, AC106, AC193 and AC308

February 21, 2007
Commencement Date

C. P. Ramani, P.E.
President

This accreditation certificate supersedes any IAS accreditation certificate bearing an earlier date. The certificate becomes invalid upon suspension, cancellation, or revocation. See the IAS *Accreditation Listings* on the web at www.iasonline.org for current accreditation information, or contact IAS directly at (562) 699-0541. Print Date: 03/20/2008

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200046-0

Stork Twin City Testing Corporation

St. Paul, MN

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

ACOUSTICAL TESTING SERVICES

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

2008-04-01 through 2009-03-31

Effective dates

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

Sally S. Bruce

For the National Institute of Standards and Technology

National Voluntary
Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Stork Twin City Testing Corporation
662 Cromwell Avenue
St. Paul, MN 55114-1776
Mr. Michiel Graswinckel
Phone: 651-659-7333 Fax: 651-659-7348
E-Mail: michiel.graswinckel@stork.com
URL: http://www.storktct.com

ACOUSTICAL TESTING SERVICES **NVLAP LAB CODE 200046-0**

NVLAP Code	*Designation / Description*
08/P03	ASTM C423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
08/P06	ASTM E90 Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions
08/P10	ANSI S12.31 Determination of Sound Power Levels of Broad-Band Noise Sources in Reverberation Rooms
08/P31	ASTM E336 Measurement of Airborne Sound Insulation in Buildings
08/P32	ASTM E1007 Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures
08/P37	ASTM E966 Guide for Field Measurement of Airborne Sound Insulation of Building Facades and Facade Elements
08/P52	ISO 3822 Laboratory Tests on Noise Emission from Appliance and Equipment Used in Water Supply Installations
08/P54	SAE J1400 Laboratory Measurement of the Airborne Sound Barrier Performance of Automotive Materials and Assemblies

2008-04-01 through 2009-03-31
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

NVLAP-01S (REV. 2005-05-19)