AMERICAN NATIONAL STANDARD

STANDARD METHOD FOR TESTING SECTIONAL GARAGE DOORS AND ROLLING DOORS: DETERMINATION OF STRUCTURAL PERFORMANCE UNDER UNIFORM STATIC AIR PRESSURE DIFFERENCE

ANSI/DASMA 108-2005

Door & Access Systems Manufacturers' Association, International

Sponsor:

DASMA
Door & Access Systems Manufacturers Association International
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Suggestions for improvement of this standard will be welcome.
They should be sent to the Door & Access Systems Manufacturers' Association, International.

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Foreword (This foreword is included for information only and is not part of ANSI/DASMA 108-2005, *Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference.)*

This standard was developed concurrently by the Technical Committee of the DASMA Commercial & Residential Garage Door Division and by the DASMA Rolling Door Division. It incorporates years of experience in testing sectional garage doors and rolling doors commonly found in garage type structures. The committees and divisions believe the existence of the standard will provide a uniform basis of testing and rating the structural performance of such doors under uniform static air pressure difference.

The DASMA Rolling Door Division and the DASMA Commercial & Residential Garage Door Division concurrently approved revisions to the standard on April 21, 2006. DASMA employed the canvass method to demonstrate consensus and to gain approval as an American National Standard. The ANSI Board of Standards Review first granted approval of the document as an American National Standard on May 21, 2002, and granted approval of the most recent revisions to the standard on January 29, 2007.

DASMA recognizes the need to periodically review and update this standard. Suggestions for improvement should be forwarded to the Door & Access Systems Manufacturers' Association, International, 1300 Sumner Avenue, Cleveland, Ohio, 44115-2851.

ANSI/DASMA 108-2005
AMERICAN NATIONAL STANDARD

Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference

1.0 SCOPE

1.1 This test method describes the determination of the structural performance of garage door and rolling door assemblies under uniform static air pressure difference, using a test chamber.

1.2 This test method is intended only for evaluating the structural performance associated with the specified test specimen and not the structural performance of adjacent construction.

1.3 The proper use of this test method requires a knowledge of the principles of pressure and deflection measurement.

1.4 This test method describes the apparatus and the procedure to be used for applying uniformly distributed loads to a specimen.

1.5 This test method does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

1.6 This test method shall be considered equivalent to ASTM E 330-02, provided the pass/fail criteria contained in Section 11 of this standard is applied to testing in accordance with ASTM E 330-02.

1.7 For products intended for installation in the Florida High Velocity Hurricane Zone (Miami-Dade and Broward Counties), the testing procedure in Appendix A shall be used.

2. 0 DEFINITIONS

2.1 Design load: the specified difference in static air pressure (positive or negative) for which the specimen is to be tested, expressed in pounds per square foot (or pascals).

2.2 Full Operability: the ability for the door to be fully opened and closed.

2.3 Permanent deformation: the displacement or change in dimension of the specimen after the applied load has been removed and the specimen has relaxed for the specified period of time.

2.4 Preload: 50% of design load

2.5 Test load: the specified difference in static air pressure (positive or negative), equal to 1.5 times the design load, expressed in pounds per square foot (or pascals). (Note: Test load is equivalent to the proof load as defined by 330-02.)

2.6 Test specimen: the complete installed door assembly and mounting hardware as specified on the submitted drawing.

3.0 SUMMARY OF TEST METHOD

3.1 Seal the test specimen against one face as with a normal door assembly.

3.2 Supply air to or exhaust air from the chamber according to a specific test program, at the rate required to maintain the appropriate test pressure difference across the specimen.

3.3 Observe, measure, and record the deflections, deformations, and nature of any distresses or failures of the specimen.

4.0 APPARATUS

4.1 Test Chamber

4.1.1 A chamber shall be used which includes one open side against which the specimen is installed.

4.1.2 Provide a static pressure tap to measure the pressure difference across the test specimen. Locate the tap so that the reading is unaffected by the velocity of air supplied to or from the chamber or by any other air movements.

4.1.3 The air supply opening into the chamber shall be arranged so that the air does not impinge directly on the test specimen with any significant velocity.

4.1.4 A means shall be provided to facilitate test specimen adjustments and observations.

4.1.5 The test chamber and the specimen mounting frame shall not deflect under the test load in such a manner that the performance of the specimen will be affected.

4.2 Air System

4.2.1 A controllable blower, a compressed air supply, an exhaust system, or reversible controllable blower designed to provide the required maximum air pressure difference across the specimen.

4.2.2 The system shall provide an essentially constant air pressure difference for the required test period.

4.3 Pressure-Measuring Apparatus

4.3.1 The pressure-measuring apparatus shall be capable of measuring a test pressure difference within a tolerance of +/- 0.5% or +/- 0.1 inch of water column (+/- 25 Pa), whichever is greater.

4.4 Deflection-Measuring Apparatus

4.4.1 The deflection-measuring apparatus shall be capable of measuring deflections within a tolerance of +/- 1/16 inch (+/- 1.60 mm).

4.4.2 The maximum deflection, located where the door system experiences maximum deflection, shall be measured.

4.4.3 Additional locations for deflection measurements, if required, shall be stated by the specifier.

4.4.4 The deflection gages shall be installed so that the deflection of the test specimen can be measured without being influenced by possible movements of, or movements within, the specimen or member supports.

4.4.5 Deflection-measuring apparatus may also be used to measure permanent deformation.

4.5 Permanent Deformation-Measuring Apparatus

4.5.1 Permanent deformation can be determined by the use of a straight-edge type gage applied to specimen members after pre-loading and again after the test load has been removed.

5.0 HAZARDS

5.1 At the pressure used in this test method, hazardous conditions may result if failure occurs.

5.2 Take proper safety precautions to protect observers in the event that a failure occurs.

5.3 Do not permit personnel in pressure chambers during testing.

6.0 TEST SPECIMENS

6.1 The test specimen shall be as per the manufacturer's detailed drawings and/or written instructions. For sectional garage doors, the horizontal track and hanging brackets may be shortened to fit the test chamber.

6.2 The test specimen shall be anchored as supplied by the manufacturer for installation, or as set forth in a referenced specification, if applicable.

7.0 CALIBRATION

7.1 All pressure and deflection measuring devices shall be calibrated, not more than 6 months prior to

testing, in accordance with the device manufacturer's specification.

7.2 All pressure and deflection measuring devices shall be capable of achieving the tolerances provided in Section 4.0.

7.3 Calibration of manometers and mechanical deflection measuring devices are normally not required, provided the instruments are used at a temperature near their design temperature.

8.0 REQUIRED INFORMATION

8.1 Documentation in the form of detailed drawings and/or written instructions indicating complete test specimen.

8.2 The number of incremental loads and the positive and negative test loads at these increments at which deflection measurements are required.

8.3 The duration of incremental and maximum loads.

8.4 The number and location of required deflection measurements.

9.0 PREPARATION FOR TEST

9.1 Remove from the test specimen any shipping or construction material that is not to be used.

9.2 Carefully review the manufacturer's installation instructions, noting any conditions that would alter a normal installation.

9.3 Fit the specimen against the chamber opening, as with a normally installed door assembly. The exterior side of the specimen shall face the higher pressure side for positive loads; the interior side shall face the higher pressure side for negative loads.

9.4 Support and secure the specimen, exactly as shown in the installation documentation.

9.5 Install the door system per the manufacturer's installation instructions; and the door either counterbalanced where no more than the larger of 5% of door weight or ten pounds (44.5 N) applied force is required to open the door manually from the fully closed position, or a simulated counterbalance condition (including locking mechanism) by shimming up the ends of the door.

9.6 If air flow through the test specimen is such that the specified pressure cannot be maintained, cover the entire specimen and mounting frame with a single thickness of polyethylene film no thicker than .002 inches (.050 mm). The technique of application is important to ensure that the maximum load is transferred to the specimen and that the membrane does not prevent movement or failure of the specimen. Apply the film loosely with extra folds of material at each corner and at all offsets and recesses. When the load is applied, there shall be no fillet caused by tightness of plastic film. On negative pressure tests, it is especially important that the film fully contact the door surface and not span between strut, stile or rail members. Tape may be used to protect the film from sharp edges, to attach the film, and to repair holes in the film. Tape shall not provide structural support.

10.0 TEST PROCEDURE

10.1 Check the specimen for proper adjustment, and that the specimen has been assembled in accordance with manufacturer's installation instructions.

10.2 Check that the specimen has been properly prepared for testing in accordance with documentation.

10.3 Install deflection-measuring devices at the predetermined locations, according to Section 4.4.

10.4 Apply pre-load (50% of design load) and hold for 10 seconds.

10.5 Release the pressure difference across the specimen.

10.6 Allow a recovery period for stabilization of the test specimen. The recovery period for stabilization shall not be less than 1 minute nor more than 5 minutes.

10.7 Record initial static pressure and deflection gage readings.

10.8 Begin applying load until the design load is reached. Measure maximum deflection at design load. The design load shall be held for 10 seconds.

10.9 Release the load and measure the permanent deformation, if desired, within 1 to 5 minutes.

10.10 The pressure shall then be reapplied until the test load is reached. The test load shall be held for 10 seconds.

10.11 Release the load.

10.12 If the specimen has sustained the predetermined design load and test load without failure, repeat 10.3 through 10.11 for the opposite loading direction.

11.0 PASS/FAIL CRITERIA

11.1 The door system shall sustain both the design load and the test load for the predetermined amount of time.

11.2 The door system shall remain in the opening throughout the duration of the test.

11.3 The door systems shall be evaluated for full operability at the conclusion of the test. The door shall pass only if the test engineer deems that the door system has full operability.

12.0 TEST REPORT

12.1 Identification of the test

specimen **12.1.1** Manufacturer

12.1.2 Location of manufacturer

12.1.3 Dimensions

12.1.4 Model Type

12.1.5 Material description

12.1.6 Test specimen selection procedure

12.2 Detailed drawings of the test specimen (separate drawings for each test specimen are not required if all test specimen differences are noted on the drawings)

12.2.1 Dimensioned section profiles

12.2.2 Door dimensions and arrangement

12.2.3 Opening framing

12.2.4 Installation and spacing of anchorage

12.2.5 Weather-stripping

12.2.6 Locking arrangement

12.2.7 Hardware

12.2.8 Glazing details

12.2.9 Any other pertinent construction details, including the operator and its attachment if included in the test specimen.

12.3 Type, quantity and location(s) of the locking and operating hardware

12.4 Glazing thickness and type, and method of glazing

12.5 Record ambient temperature

12.6 Tabulation of data:

12.6.1 Pre-load pressure and duration

12.6.2 Design pressure differences exerted on the specimen

12.6.3 Design pressure durations

12.6.4 Pertinent deflections at these design pressure differences

12.6.5 Test pressure differences exerted on specimen

12.6.6 Test pressure durations

12.6.7 Permanent deformations at locations specified for each specimen tested.

12.7 Pass/Fail criteria results

12.8 Visual observations of performance

12.9 State whether or not tape or film were used to seal against air leakage, and whether in the judgment of the test engineer, the tape or film influenced the results of the test.

12.10 Name of the individual that conducted the test

12.11 Name and address of the testing facility

12.12 Names of official observers

12.13 Other data, useful to the understanding of the test report, as determined by the laboratory or specifier, shall either be included within the report or appended to the report.

REFERENCED DOCUMENTS:

ASTM-E 330-02, Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference

ANSI/DASMA 108 Test Report Form

Uniform Static Air Pressure Performance

Test Specimen Identification:

Manufacturer _____Manufacturer Location_____

Model Type/Number _____ Dimensions_____

Material Description _____

Test Specimen Selection Procedure_____

Applicable Drawing No.'s _____

Operating Hardware (Type, Quantity, Location(s)):

_____

_____

Glazing Description:

Type: _____ Thickness: _____Method: _____

Ambient Temperature: _____

Performance:

	Positive Pressure	**Negative Pressure**
Pre-load Pressure		
Design Pressure		
Design Pressure Test Duration		
Maximum Deflection at Design Pressure		
Deflection after Release of Design Pressure		
Test Pressure		
Test Pressure Test Duration		

Pass/Fail Criteria:	**Positive**	**Negative**
Design Load Sustained? (Yes/No)	_____	_____
Test Load Sustained? (Yes/No)	_____	_____
Garage/Rolling Door remained in opening during duration of test? (Yes/No)	_____	_____
Garage/Rolling Door operable, after evaluation for full operability? (Yes/No)	_____	_____

Visual Observations of Performance:

_____

_____

_____

Notes:

Testing Conducted by _____ of_____

Signature of Tester _____ Date _____

Test Facility and Location _____

Official Observers _____

Appendix A

Testing Procedure for the Florida High Velocity Hurricane Zone

1. Scope

1.1 This Appendix covers procedures for conducting a uniform static air pressure test for garage doors and rolling doors as required in the Florida High Velocity Hurricane Zone per Section 1707.4.3 of the Florida Building Code, Building.

2. Referenced Documents

2.1 2004 Florida Building Code, Building

2.2 ASTM E 330-02

3. Terminology

3.1 *Definitions* – for definitions of terms used in this Appendix, refer to the Florida Building Code, Building

3.2 *Descriptions of Terms Specific to This Protocol*

3.2.1 ***Specimen –*** The entire assembled unit submitted for test, including anchorage devices and structure to which product is to be mounted.

3.2.2 ***Test Chamber –*** An airtight enclosure of sufficient depth to allow unobstructed deflection of the specimen during pressure loading, including ports for air supply and removal, and equipped with a device to measure test pressure differentials.

3.2.3 ***Maximum Deflection –*** The maximum displacement, measured to the nearest 1/8" (3 mm), attained from an original position while a maximum load is being applied.

3.2.4 ***Permanent Deformation –*** The permanent displacement, measured to the nearest 1/8" (3 mm), from an original position that remains after maximum test load has been removed.

3.2.5 ***Design Pressure (Design Wind Load) –*** The uniform static air pressure difference, inward or outward and expressed in pounds per square foot (Newtons per square meter), for which the specimen would be designed under service load conditions using Section 1619 of the Florida Building Code, Building.

3.2.6 ***Test Load –*** One and one-half (1.5) times the design pressure (positive or negative) as determine by Section 1714 of the Florida Building Code, Building, for which the specimen is to be tested, expressed in pounds per square foot (Newtons per square meter.)

3.2.7 ***Specimen Failure –*** A change in condition of the specimen indicative of deterioration under repeated load or incipient failure, such as cracking, fastener loosening, local yielding, or loss of adhesive bond.

4. Significance and Use

4.1 The test procedures outlined in this protocol provide a means of determining whether a garage door or rolling door provides sufficient resistance to wind forces as determine by Section 1619 of the Florida Building Code, Building.

5. Test Specimen and Procedures

5.1 ***Test specimen –*** All parts of the test specimen shall be full size, using the same materials, details,

methods of construction and methods of attachment as proposed for actual use. The specimen shall consist of the entire assembled unit attached to a given type of structural framing of the building, and shall contain all devices used to resist wind forces.

A pressure treated nominal 2 x 4 - #3 Southern Pine wood buck shall be used for attachment of the specimen to the test frame/stand/chamber. Such wood buck shall become part of the approval.

5.1.1 Locking mechanisms shall be permanently mounted on the specimen. Such locking mechanism shall require no tools to be latched in the locked position. Devices such as pins shall be permanently secured to the specimen through the use of chains or wires which shall be of corrosion resistant material. This section shall not apply to specimens referenced in Section 2413 of the Florida Building Code, Building.

5.1.2 Products that are not categorized as means of egress/escape, and are provided with more than one single action locking mechanism, shall be provided with permanently posted instructions on latching for high wind pressures.

5.1.3 Doors shall be evaluated for operability after this test.

5.1.4 Specimen and fasteners, when used, shall not become disengaged during test procedure.

5.2 ***Procedure***

5.2.1 *Preparation* – Remove from the test specimen any sealing or construction material that is not normally used when installed in or on a building. Fit the specimen, with its structural framing, into or against the chamber opening. The outdoor side of the specimen shall face the higher pressure side for positive loads; the indoor side shall face the higher pressure side for negative loads. Support and secure the specimen by the same number and type of anchors to be approved for normal installation of the specimen in the building.

5.2.2 ***Single Action Locking/Closing Procedure***

5.2.2.1 All specimens which are required to comply with means of egress/escape, shall be tested for full static loads as required by Section 5.2.3 of this Appendix with only one single action locking mechanism. Additionally, doors that are not required to comply with means of egress/escape requirement shall be tested as described in Sections 5.2.2.2 and 5.2.2.3 of this Appendix.

5.2.2.2 Doors that are not required to comply with the means of egress/escape requirements, which are provided with more than one single action hardware and comply with the test described in this Appendix, shall also be successfully tested with a test load equal to a static air pressure based on wind velocity of 75 mph (33.6 m/s) using only one single action locking mechanism. Apply the corresponding positive test load and hold for 30 seconds. Release this test load across the specimen, and after a recovery period of not less than 1 minute nor more than 5 minutes, apply the corresponding reverse test load and hold for 30 seconds. Release the reverse test load and record observations. Such products shall have all additional locking mechanism permanently attached to the product by means of non-removable and non-corrosive devices, and shall comply with Section 5.1.1 of this Appendix.

5.2.3 ***Uniform Static Air Procedure***

5.2.3.1 Check specimen for adjustment and engage all locks.

5.2.3.2 Install all required measurement devices.

5.2.4 Apply one-half of the test load and hold for 30 seconds. Release the test load across the specimen, and after a recovery period of not less than 1 minute nor more than 5 minutes, apply one-half the reverse test load and hold for 30 seconds. Release reverse test load, and after a recovery period of not less than 1 minute nor more than 5 minutes, record all readings.

5.2.5 Apply full test load and hold for 30 seconds. Release the test load across the specimen, and after a recovery period of not less than 1 minute nor more than 5 minutes, apply full reverse test load and hold for 30 seconds. Release reverse test load, and after a recovery period of not less than 1 minute nor more than 5 minutes, record all readings.

5.3 Specimens successfully tested shall qualify assemblies with material thicker and of the same type and construction provided the anchorage of the product is proportionally changed according to the wind pressure test.

5.4 Specimens successfully tested shall qualify assemblies of a smaller size and of the same type and construction, provided the anchorage of the product remains unchanged.

6. Apparatus

6.1 The description of the apparatus is general in nature. Any equipment, properly certified, calibrated, and approved by the Authority Having Jurisdiction capable of performing this test within the allowable tolerance, shall be permitted.

6.2.1 ***Test Chamber –*** The test chamber, to which the specimen is mounted, shall be provided with pressure taps to measure the pressure difference across the test specimen and shall be so located that the reading is unaffected by the velocity of air supplied to or from the chamber. The specimen mounting frame shall not deflect under test load in such manner that the performance of the specimen will be affected.

6.2.2 ***Pressure-Measuring Apparatus –*** The pressure-measuring apparatus shall measure the test pressure difference within a tolerance of +/-2%

6.2.3 ***Deflection-Measuring System –*** The deflection-measuring system shall measure the deflection within a tolerance of 0.01" (0.25 mm).

6.2.4 ***Air System –*** A controllable blower, a compressed-air supply, an exhaust system, or reversible controllable blower designed to provide the required maximum air pressure difference across the specimen. The system shall provide an essentially constant air-pressure difference for the required test period.

6.3 ***Calibration of Equipment –*** The pressure-measuring apparatus and the deflection-measuring system shall be calibrated and certified by an independent qualified agency approved by the Authority Having Jurisdiction, at two-year intervals.

6.3.1 The calibration report shall include the date of the calibration, the name of the agency conducting the calibration, methods and equipment used in the calibration process, the equipment being calibrated, and any pertinent comments.

7. Hazards

7.1 Testing facilities shall take all necessary precautions to protect observers during the entire test

procedure. All observers shall always be at a safe distance away from specimen and apparatus. Safety regulations shall be followed in order to avoid any injuries to any and all observers.

8. Testing Facilities

8.1 Any testing facility wishing to perform this test shall first obtain the approval of the Authority Having Jurisdiction. Such approval shall only be given to those facilities that show they are properly equipped to perform the complete test. Testing facilities shall request, in writing, approval of their facilities. Such request shall contain the ability of the facility to perform all aspects of the test, all equipment used in the performance of the test, name of the independent agency calibrating their equipment, location of facilities, personnel involved in the testing, a quality control program, a safety program and any other pertinent information which shall clearly indicate that such facility is in the business of performing independent testing. A representative of the Authority Having Jurisdiction shall visit the site, and shall reserve the right to order any changes necessary to accept the facility for testing.

8.2 Approval of facilities to perform the test described in this Appendix shall not constitute an approval of such facilities to perform other tests not specifically mentioned in this protocol.

8.3 The testing lab shall be TAS301 certified.

9. Format of Test

The manufacturer shall notify the Authority Having Jurisdiction at least seven (7) working days prior to the performing of the test. The Authority Having Jurisdiction reserves the right to observe the test. The Authority Having Jurisdiction must be notified of the place and time the test will take place. The test must be recorded on video and retained by the laboratory per TAS301.

10. **Test Reports** The following minimum information shall be included in the submitted report:

10.1 Date of the test and the report, and the report number.

10.2 Name and location of facilities performing the test.

10.3 Name and address of requester of the test.

10.4 Identification of the specimen (manufacturer, source of supply, dimension, model types, material, procedure of selection and any other pertinent information).

10.5 Detailed drawings of the specimen showing dimensioned section profiles, type of framing to which specimen was attached, panel arrangement, installation and spacing of anchorage, locking arrangement, sealant, hardware, product markings and their locations, and any other pertinent construction details. Any deviation from the drawings or any modifications made to the specimen to obtain the reported values shall be noted on the drawings and in the report.

10.6 Maximum deflection recorded, and mechanism used to make such determination.

10.7 Permanent deformation (a cross-sectional diagram shall be provided to show where it occurred).

10.8 Name, address, signature and seal of Florida professional engineer, witnessing the test and preparing the report. Engineer shall be part of the laboratory's permanent staff or under laboratory's contract.

10.9 A tabulation of pressure differences exerted across the specimen during the test and their duration.

10.10 Maximum positive and negative pressures used in the test.

10.11 A description of the condition of the test specimens after testing, including details of any damage and any other pertinent observations.

10.12 When the tests are made to check conformity of the specimen to a particular specification, an identification or description of that specification.

10.13 A statement that the tests were conducted in accordance with this test method.

10.14 A statement of whether or not, upon completion of all testing, the specimens meet the requirements of Section 1620 of the 2004 Florida Building Code, Building and this Appendix.

10.15 A statement as to whether or not tape or film, or both were used to seal against air leakage, and whether in the judgment of the test engineer, the tape or film influenced the results of the test.

10.16 Signatures of persons responsible for supervision of the tests, and a list of official observers.

10.17 All data not required herein, but useful to a better understanding of the test results, conclusions or recommendations, may be appended to the report.

11. Recording Deflections

Maximum Deflection

Permanent Deformation

100% recovery is required after half test load, and 80% minimum is required after full load (see Miami-Dade BCCO checklist 0220).

12. Additional Testing

12.1 After successfully completing all parts of the test described in the Appendix, the specimen shall be subjected to the forced entry test as required by the 2004 Florida Building Code, Building. Minimum gauge of materials shall be determined prior to testing per the 2004 Florida Building Code, Building.

12.2 If a product is subjected to weathering that can affect its integrity, the manufacturer shall contact the Authority Having Jurisdiction for additional testing requirements such as but not limited to moisture, U.V., accelerated aging, and other similar tests.

12.3 The Authority Having Jurisdiction shall reserve the right to require any additional testing necessary to assure full compliance with the intent of the 2004 Florida Building Code, Building.

13. Product Marking

13.1 All approved products shall be permanently labeled with the manufacturer's name, city, and state, and the following statement: "Product Control Approved."

13.2 Permanently labeled shall be a metallic label fixed permanently to the frame of the specimen by rivets or permanent adhesive.

13.3 Any instructions for operations shall be permanently mounted on the specimen in an area not subject to be painted or concealed.

DASMA – the Door & Access Systems Manufacturers Association, International – is North America's leading trade association of manufacturers of garage doors, rolling doors, garage door operators, vehicular gate operators, and access control products. With Association headquarters based in Cleveland, Ohio, our 90 member companies manufacture products sold in virtually every county in America, in every U.S. state, every Canadian province, and in more than 50 countries worldwide. DASMA members' products represent more than 95% of the U.S. market for our industry.

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