

Product Ratings and Performance Certifications

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Learning Objectives

- Understand the AMCA Certified Ratings Program and it's objectives
- Review the 'fine print' that goes along with the rating
- Overview of how catalog ratings are developed
- See the various ratings available
- Exposure to the lab accreditation program

An Overview of AMCA

- Air Movement and Control Association International
- Not-for-profit manufacturers association with roots going back to1917
- Mission is to promote the health, growth and integrity of the industry
- A main focus is establishing rating integrity for products in the air moving industry

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An Overview of AMCA

AMCA contributes to the industry by

1. Developing and disseminating technical information
- Product-rating test standards
- Application guides and handbooks
- White papers, technical articles and educational seminars

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An Overview of AMCA

AMCA contributes to the industry by

2. Advocating for members and the industry:

- Energy efficiency
- Fire and life safety
- Acoustics
- Indoor environmental quality
- Codes, standards and regulations
- High performance air systems

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An Overview of AMCA

AMCA contributes to the industry by

3. Administering product certification programs

- AMCA Certified Ratings Program (worldwide)
- European Commission 327 Fan Efficiency compliance verification
- AMCA listing and labeling program for U.S./state/regional building codes







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The AMCA Certified Ratings Program

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The AMCA Certified Ratings Program

How AMCA's third-party Certified Ratings System works:

- Manufacturer send products to AMCA for testing
- AMCA tests products for parameters specified
- AMCA checks its data against manufacturer literature
- Periodic check tests in AMCA laboratory ensures certifications are valid over time



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The AMCA Certified Ratings Program

After certification, the product

- Is licensed to bear AMCA's seal
- Is listed in AMCA's online database
  - www.amca.org/certified-listed/cpsearch.php







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The AMCA Certified Ratings Program

Some background on the program

- Over 50 years old
- 18 types of products certified
- More than 3,700 certified products
- Nearly 275 AMCA member companies in 30 countries participate in program
- Testing is done in AMCA-accredited independent and manufacturer laboratories

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What Does This Seal Mean?



Available Certifications – Varies with product



Requirements To Use the AMCA Seal

- Catalog ratings based on tests
- A published catalog which includes ratings
  - AMCA verifies the ratings
  - AMCA ensures that the performance statements are correct
- Continual manufacturing check tests

Published Performance Ratings

- Includes statements and descriptions to identify:
  - Installation Type (e.g. Ducted Outlet)
  - Drive Losses (e.g. with belt losses)
  - Test Figure (for dampers)
  - Power
  - Density
  - Appurtenances (e.g. silencer, inlet screen)

Product Ratings Are Based on Testing

- Test procedures are governed by published test standards
- AMCA standards are available for a variety of products
- AMCA standards are generally accepted internationally

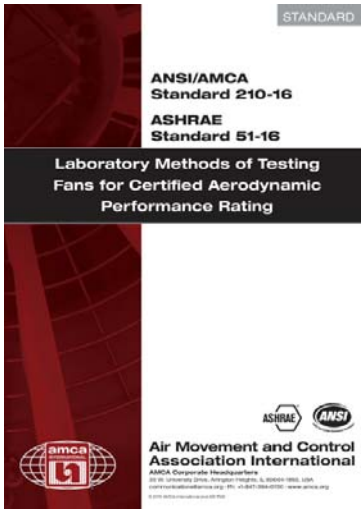
Product Ratings For Fans

- Aerodynamic Performance
  - Airflow Rate
  - Pressure Rise
  - Power
- Sound Performance
  - Inlet Sound, Outlet Sound, and/or Total Sound
  - Sound Power, A-weighted or Sones
- Must have certified air to have certified sound
- Fan Efficiency Grades (FEG)





AMCA 210 – Air Performance Test



Other Air Test Standards

- AMCA 220 – Air Curtain Test
- AMCA 230 – Circulator Fans
- AMCA 240 – Positive Pressure Ventilators
- AMCA 250 – Jet Fans
- AMCA 260 – Induced Flow Fans



Positive Pressure Ventilator Test

Sound Performance Testing



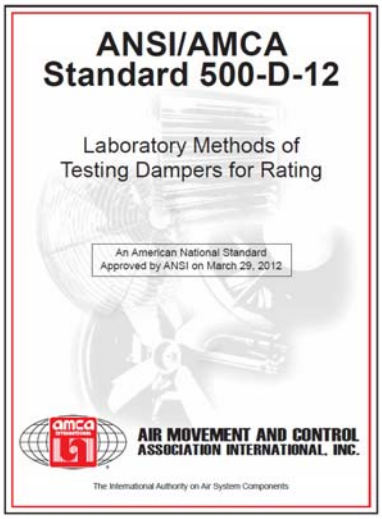
- AMCA 300 – Reverberant Room
- AMCA 320 – Sound Intensity Method

Product Ratings For Dampers

- Air Performance (Pressure Drop)
- Leakage Performance

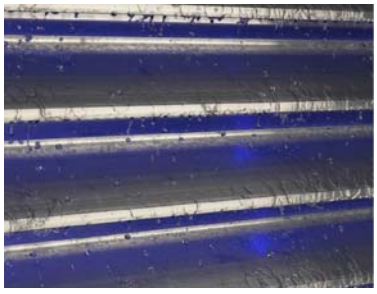


AMCA 500-D Damper Testing



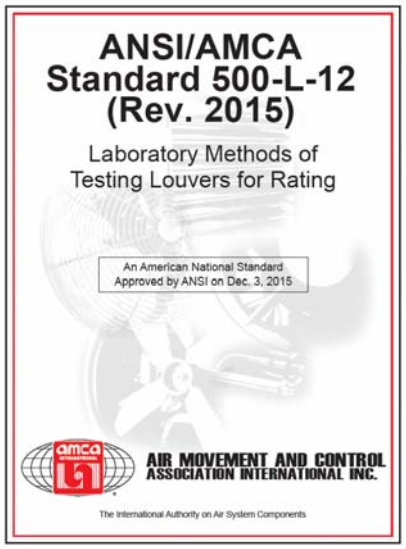
Product Ratings For Louvers

- Air Performance (Pressure Drop)
- Leakage Performance (optional)
- Resistance to Water and Wind Driven Rain (optional)
- Sound Transmission Loss of Acoustic Louvers
- Weather Louvers – Impact
- Sand Louver Testing



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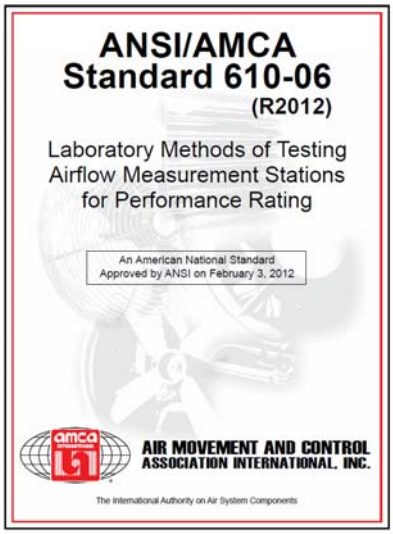
AMCA 500-L Louver Testing



Ratings For Airflow Measurement Stations

- Accuracy
- Pressure Drop

ANSI/AMCA 610-Testing For Airflow Measurement Stations



Ratings For Acoustical Duct Silencers

- Dynamic Insertion Loss
- Airflow Generated Noise
- Pressure Drop

ASTM E477 Duct Silencer Test Code

E477 Standard Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers

Note: This is not an AMCA Standard

Testing Conformance

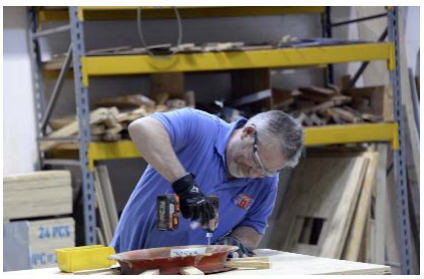
- How do we know that the lab doing the testing is conforming to the standards?

AMCA Laboratory Accreditation Program

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AMCA Laboratory Accreditation Program

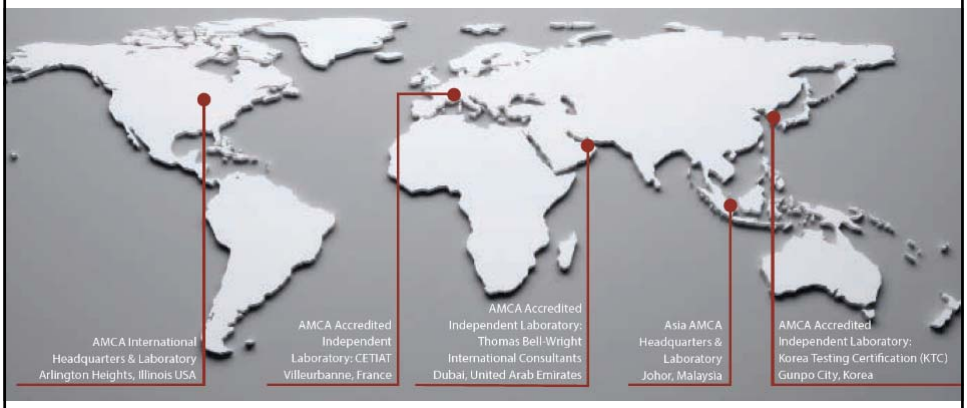
- A means for laboratories to be qualified to test products in accordance with AMCA standard test methods





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AMCA Laboratory Accreditation Program



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AMCA Laboratory Accreditation Program

Steps to becoming an accredited lab

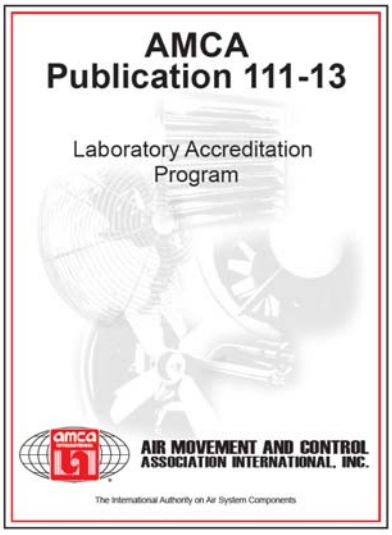
- Fill out an application
- AMCA check the test equipment and procedures
- AMCA verifies that lab are capable of testing to the standards
- AMCA arranges a witness test of a product in the applicant's laboratory
- AMCA will perform a check test on the product in their lab.
- If results are within tolerances, AMCA staff will evaluate applicant's test reports
- AMCA will accredit the lab if all steps result in approval

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Laboratory Accreditation Program

- Certified ratings require testing in an AMCA International accredited laboratory

AMCA 111 Laboratory Accreditation Program



Certification Procedure

- Sometimes not all product sizes need to be tested
  - Fans can use geometric proportionality
  - Testing a smaller fan can be use to rate a larger fan
  - Other products have specific test sizes

Certified Ratings Summary

- Not all published ratings are certified
- Ratings may be certified only by the manufacturer
- The ratings for products bearing the AMCA seal have a precise meaning



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www.amca.org

AMCA International Licensed Products

- Testing performed at AMCA or in an AMCA accredited Lab
- Ratings have been checked by an independent 3rd party (AMCA)
- Products are periodically tested by an independent 3rd party
- Ratings are published in conformance with standardized rating procedures
- Only AMCA licensed products may bear the AMCA seal

AMCA Publications Governing Certified Ratings

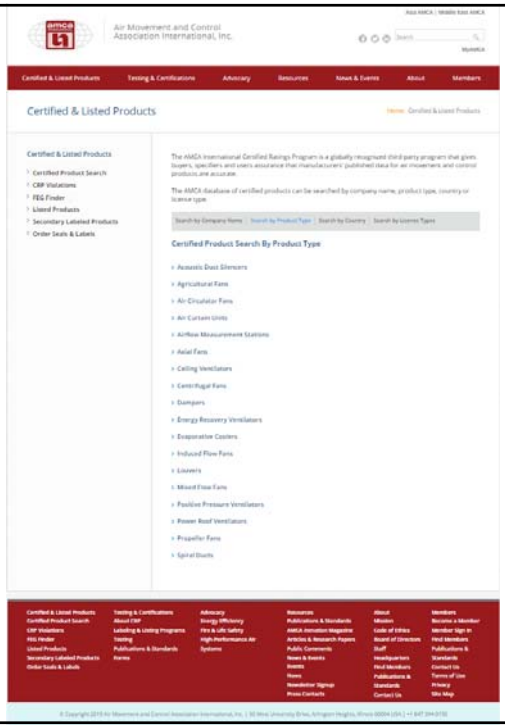
- AMCA 11 Certified Ratings Program Operating Manual
- AMCA 211 Product Rating Manual For Air Performance
- AMCA 311 Product Rating Manual For Sound Performance
- AMCA 511 Cert. Rating Program For Air Control Devices
- AMCA 611 Cert. Rating Program For Airflow Meas. Stations
- AMCA 1011 Cert. Rating Program For Acoustical Duct Silencers

These documents are available as free downloads from www.amca.org



Is Product "X" AMCA Licensed?

- See AMCA website – www.amca.org
- Updated daily
- Products can be identified by product type or manufacturers name



Resources

For more information about AMCA, visit:

1. www.amca.org
2. www.techstreet.com/amca
3. www.amca.org/certified-listed
4. www.amca.org/resources/whitepapers.php

Questions?

Please contact Tan Tin Tin at tttan@asiaamca.org

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