



An Introduction to the **AMCA Certified Ratings Program**

An AMCA International White Paper



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An Introduction to the AMCA Certified Ratings Program

ABSTRACT

This white paper summarizes how the AMCA Certified Ratings Program (CRP) works and how series products that undergo the rigorous certification process deserve to be specified ahead of noncertified series equipment. It also matches certified products to the AMCA CRP publications that lay out its certification rules and identifies the product rating test standards associated with the product and certification. Additionally, this paper clears up some misconceptions about the AMCA CRP, and it provides some exemplary language that can be used as a guideline for specifications.

AMCA INTERNATIONAL

The Air Movement and Control Association (AMCA) International has roots going back to 1917 as a not-for-profit for manufacturers, and its hallmark program, the AMCA Certified Ratings Program (CRP), has been in place for almost 50 years. The AMCA CRP assures that a duplicable series product line has been tested and rated in conformance with AMCA's test standards and rating requirements. Participating in the AMCA CRP is distinct from testing a product in accordance with AMCA standards, even in an AMCA-accredited laboratory. Unless engineers, architects and contractors properly specify AMCA-certified products in project submittals, owners may not get the performance they believe they are paying for.

This white paper summarizes how the AMCA CRP works and how series products that undergo the rigorous certification process deserve to be specified ahead of noncertified series equipment when AMCA-certified products are available. It also matches certified products to the AMCA CRP publications that lay out the rules of certification for that product and identifies the product rating test standards associated with the product and certification.

This paper also clears up a few prevalent misconceptions about the AMCA CRP, and it provides some exemplary language that can be used as a guideline for cogent and enforceable specifications.

THE AMCA CRP

AMCA certifies 21 air movement and control products, which are listed in Table 1.

Take note that all of these products are series produced – designed and fabricated for general-purpose installations in commercial, industrial and residential facilities. Custom products, such as many industrial process/power utility fans and dampers and custom-designed site-built louvers, cannot be certified. They can, however, be tested in accordance with AMCA standards in an AMCA-accredited laboratory.

The AMCA CRP was developed in response to a need for validated published product performance ratings for buyers, specifiers and users of air movement and control devices. Only after the product has been tested and the cataloged ratings have been approved can manufacturers display performance seals (Figure 1).



Figure 1. Example AMCA CRP seals for fans and dampers (left) and louvers (right). Note that multiple certifications can be combined into one label.

AMCA CRP seals can be affixed to equipment and placed in catalogues and sizing/selection software. Additionally, each certified/licensed product line is subject to continuing check tests every three years, either in AMCA's laboratory or in one of AMCA's independent accredited laboratories. After a product has passed three successive check tests, a longer interval between subsequent check tests is allowed.

The AMCA certification process is accredited by the American Association for Laboratory Accreditation to the requirements of ISO/IEC Guide 65, *General Requirements for Bodies Operating Product Certification Systems*. Soon, it will be accredited to the newer requirements of ISO/IEC 17065, *Conformity Assessment – Requirements for Bodies Certifying Products, Processes and Services*.

Currently, 231 manufacturers from around the world are enrolled in the AMCA CRP, accounting for a total of 3,245 products. Over the last five years, the number of manufacturers with certified products has increased by more than 33 percent, while the total number of certified products has increased by more than 28 percent (Figure 2).

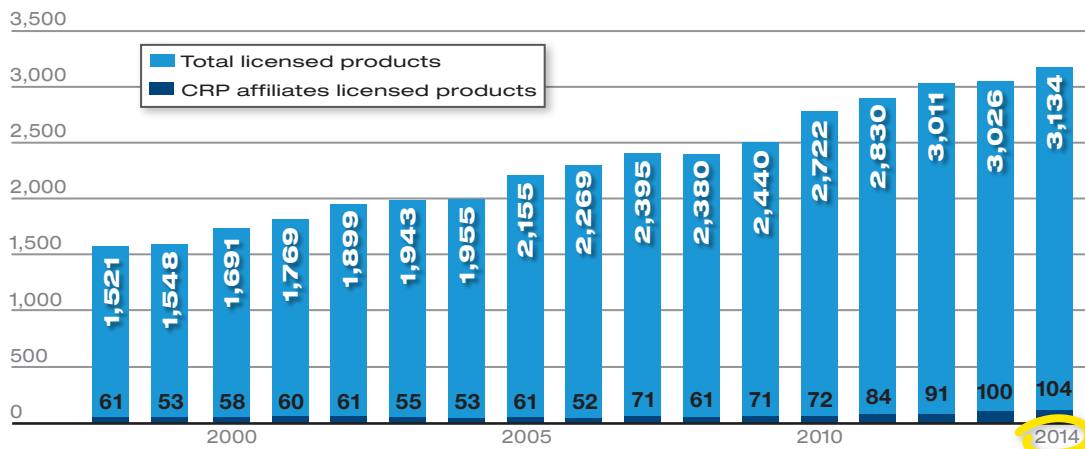


Figure 2. AMCA-certified products: growth over the years

PURPOSE OF AMCA CERTIFIED RATINGS PROGRAM

The purpose of AMCA's certified ratings program is to assure buyers, users and specifiers that manufacturer's published performance ratings are reliable and accurate. This includes information on how the product was tested and what appurtenances were included during the ratings tests, which allows for proper selection of the air system components to meet required performance specifications. Furthermore, manufacturers have assurance that competitive ratings are based on standard test methods and procedures that are subject to review by AMCA as an impartial authority. Lastly, manufacturers' performance ratings are scheduled for check testing based on requirements of the certified product line. These tests are performed in an AMCA laboratory.

ABOUT THE AMCA SEAL

Contrary to popular belief, the AMCA seal does not have to be displayed on products licensed to bear it. Thus, when developing project submittals and specifications, it is best to specify that products "must be certified to bear the AMCA seal." However, a requirement stating that products must bear the AMCA seal can be satisfied if the a manufacturer includes literature with a submittal, showing the AMCA CRP seal for the certification for which the product is licensed.

Table 1 shows that some products can earn more than one certification. In such cases, their seals are usually combined, as shown for the louver CRP seal in Figure 1.

Once licensed, AMCA CRP seals can only be applied according to the rules laid out in CRP publications. For example, seals must be directly and specifically associated with a product currently licensed to bear the AMCA seal and cannot be displayed on the cover of a catalog containing both licensed and unlicensed products.

HOW TO SPECIFY AMCA-CERTIFIED PRODUCTS

When specifying AMCA-certified products, reference the appropriate AMCA CRP publication and, for added confidence, the appropriate test standard from Table 1. For example, product specifications for many types of fans, dampers and louvers can be written as follows:

Fan(s) shall comply with AMCA Publication 11 and bear the AMCA Certified Ratings Program seal for air performance and sound performance according to AMCA Publication 211 and AMCA Publication 311.

Damper(s) shall be licensed to bear the AMCA Certified Ratings Program seal for air performance, air leakage and efficiency in accordance with AMCA Publication 511.

Louver(s) shall be licensed to bear the AMCA Certified Ratings Program seal for air performance, wind-driven rain and water penetration as applicable in accordance with AMCA Publication 511.

A specification including certification publications and test standards could look like this, using fans as an example:

The fan(s) must comply with AMCA Publication 211 and be licensed to bear the AMCA Certified Rating Program seal. The fans shall be tested for air performance — flow rate, fan pressure, power, air density, speed of rotation and fan efficiency — according to ANSI/AMCA Standard 210/ASHRAE Standard 51. Fan sound ratings shall be certified in compliance with AMCA Publication 311 and shall comply with ANSI/AMCA Standard 301. The fans shall be tested according to ANSI/AMCA Standard 300.

AMCA CERTIFICATION VS. AMCA TEST STANDARDS

A common area of confusion is the difference between a product that is AMCA certified and one that was tested to an AMCA standard. A product that was tested to an AMCA standard is not necessarily an AMCA-certified product. Figure 3 highlights the checks that manufacturers' product data undergo when submitted to the AMCA Certified Ratings Program, as opposed to the unverified nature of the data from tests that manufacturers claim were conducted in accordance with an AMCA standard.

Only a product that passes these checks is licensed to bear the AMCA seal. AMCA CRP seals can be affixed

TERMINOLOGY

Practitioners often refer to the AMCA CRP seal as a label, and they use "licensed" and "certified" interchangeably. While "seal," "licensed" and "unlicensed" are the official terms used by the AMCA Certified Ratings Program, "label," "certified," "uncertified" and "noncertified" are terms that work just fine.

to equipment and placed in catalogs and sizing/selection software.

All certified products are open to challenge testing initiated by a third party.

Uncertified products claimed to have been “tested in accordance with” an AMCA test standard undergo no direct observation of testing by AMCA.

AMCA publications that have title designations ending in “11” define and describe the implementation of the CRP:

- AMCA Publication 11, *Certified Ratings Program Operating Manual*, sets the foundation for how the CRP works across all certifiable products and defines requirements for licensing the AMCA seal.
- AMCA Publication 211, *Certified Ratings Program—Product Rating Manual for Fan Air Performance*, sets forth requirements and processes for fan air performance certification and lists approved-rating test standards.
- AMCA Publication 311, *Certified Ratings Program – Product Rating Manual for Fan Sound Performance*, governs fan-sound ratings and certification.
- AMCA Publication 511, *Certified Ratings Program – Product Rating Manual for Air Control Devices*, covers damper and louver certification.
- AMCA Publication 611, *Certified Ratings Program – Product Rating Manual for Airflow Measurement Stations*, covers airflow measurement stations.
- AMCA Publication 1011, *Certified Ratings Program – Product Rating Manual for Acoustical Duct Silencers*, deals with acoustical duct silencers.

All CRP publications are available at no cost at www.amca.org.

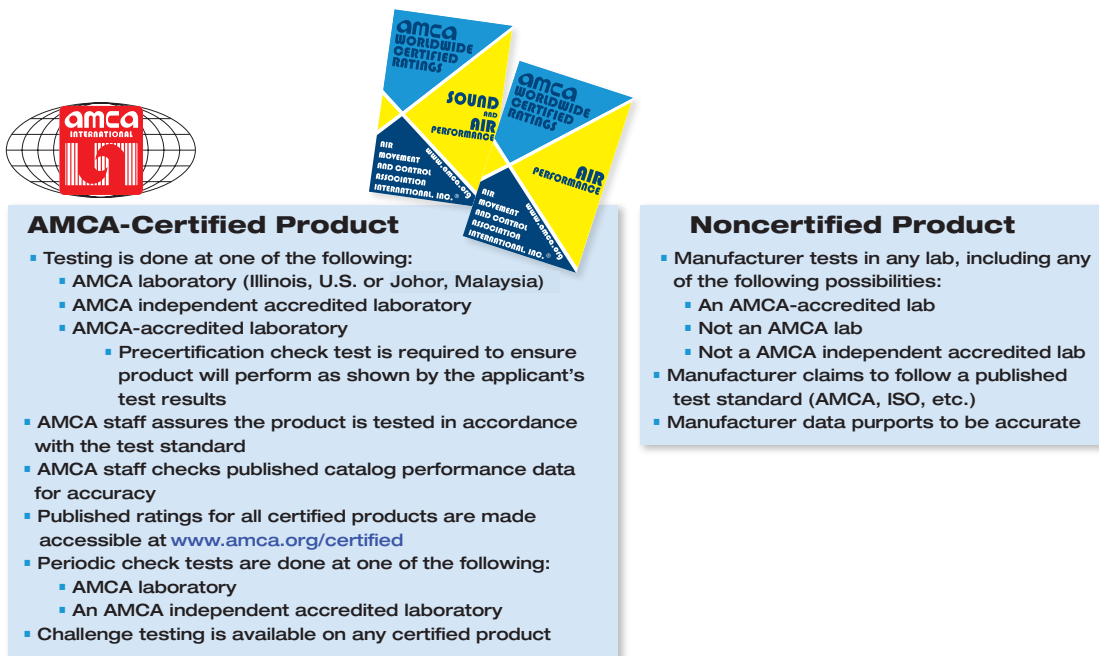


Figure 3. Manufacturers' product data for AMCA-certified products compared to noncertified products.

After including references to applicable AMCA CRP publications, specifiers have the option of writing in test standards approved for a given certification to provide additional confidence a product has undergone tests for important parameters. Approved test standards are listed in CRP publications.

There are many types of certifications offered by AMCA — series fans, for example, can be certified for air performance, sound and energy efficiency. Table 1 provides the complete list of license types that the AMCA CRP







offers, along with the proper AMCA CRP publication and associated test standards.

HOW TO CERTIFY PRODUCTS

To participate in the AMCA CRP, manufacturers agree to undergo a series of steps: to test their products, to submit test data and catalog data to AMCA staff for review, to make their certified ratings public on the AMCA website, and to undergo periodic check tests. Figure 4 shows the steps that manufacturers follow to initially certify products and then to maintain certification.

AMCA reviews manufacturers' catalogs to ensure that all program requirements have been met and that published performance data is within the required tolerances when compared against the test data submitted with the application. AMCA's review is performed on all catalogs the manufacturer makes publicly available, including electronic selection software programs.

Table 1. License types, publications and test standards associated with 21 products covered by the AMCA Certified Ratings Program

Products	Certification License Types	CRP Publications	Test/Rating Standards
<ul style="list-style-type: none"> • Agricultural fans • Axial fans • Ceiling ventilators • Centrifugal fans • Energy recovery ventilators • Evaporative coolers • Jet tunnel fans • Mixed flow fans • Power roof ventilators • Propeller fans 	   	<ul style="list-style-type: none"> • AMCA Publication 211, <i>Certified Ratings Program – Product Rating Manual for Fan Air Performance</i> • AMCA Publication 311, <i>Certified Ratings Program - Product Rating Manual for Fan Sound Performance</i> 	<ul style="list-style-type: none"> • ANSI/AMCA Standard 205, <i>Energy Efficiency Classification for Fans</i> • ANSI/AMCA Standard 210, <i>Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating</i> • ANSI/AMCA Standard 250, <i>Laboratory Methods of Testing Jet Tunnel Fans for Performance</i> • ANSI/AMCA Standard 300, <i>Reverberant Room Method for Sound Testing of Fans</i> • ANSI/AMCA Standard 320, <i>Laboratory Methods of Sound Testing of Fans Using Sound Intensity</i> • ISO 5801, <i>Industrial Fans – Performance Testing Using Standardized Airways</i> • ISO 13347-3, <i>Industrial Fans – Determination of Fan Sound Power Levels Under Standardized Laboratory Conditions – Part 3: Enveloping Surface Methods</i>
<ul style="list-style-type: none"> • Air circulator fans 		<ul style="list-style-type: none"> • AMCA Publication 211 	<ul style="list-style-type: none"> • ANSI/AMCA Standard 230, <i>Laboratory Methods of Testing Air Circulating Fans for Rating and Certification</i>
<ul style="list-style-type: none"> • Air curtain units 		<ul style="list-style-type: none"> • AMCA Publication 211 • AMCA Publication 311 	<ul style="list-style-type: none"> • ANSI/AMCA Standard 220, <i>Laboratory Methods of Testing Air Curtains for Aerodynamic Performance Ratings</i> • ANSI/AMCA Standard 300

• Induced flow fans



- AMCA Publication 211
- AMCA Publication 311

- ANSI/AMCA Standard 260, *Laboratory Methods of Testing Induced Flow Fans for Rating*
- ANSI/AMCA Standard 300
- ANSI/AMCA Standard 205

• Positive pressure ventilators



- AMCA Publication 211

- ANSI/AMCA Standard 240, *Laboratory Methods of Testing Positive Pressure Ventilators for Aerodynamic Performance Rating*

• Airflow measurement stations



- AMCA Publication 611, *Certified Ratings Program – Product Rating Manual for Airflow Measurement Stations*

- ANSI/AMCA Standard 610, *Laboratory Methods of Testing Airflow Measurement Stations for Performance Rating*

• Dampers



- AMCA Publication 511, *Certified Ratings Program – Product Rating Manual for Air Control Devices*

- ANSI/AMCA Standard 500-D, *Laboratory Methods of Testing Dampers for Rating*

• Louvers



- AMCA Publication 511

- ANSI/AMCA Standard 500-L, *Laboratory Methods of Testing Louvers for Rating*
- ASTM E90, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*




<ul style="list-style-type: none"> Gravity ventilators 		<ul style="list-style-type: none"> AMCA Publication 511 	<ul style="list-style-type: none"> ANSI/AMCA Standard 500-L
<ul style="list-style-type: none"> Spiral duct Transverse duct connectors 		<ul style="list-style-type: none"> AMCA Publication 511 	<ul style="list-style-type: none"> ANSI/ASHRAE/SMACNA Standard 126, <i>Methods of Testing HVAC Air Ducts and Fittings</i>, Section 7
<ul style="list-style-type: none"> Acoustic duct silencers 		<ul style="list-style-type: none"> AMCA Publication 1011, <i>Certified Ratings Program – Product Rating Manual for Acoustical Duct Silencers</i> 	<ul style="list-style-type: none"> ASTM E477, <i>Standard Test Method for Laboratory Measurements of Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers</i>



Figure 4. The 11 steps manufacturers must follow for their products to be licensed to bear the AMCA CRP seal.

Furthermore, AMCA requires a precertification test when a manufacturer applies for certification using test reports from an AMCA-accredited laboratory (which is normally owned/operated by the product manufacturer) or as an alternate manufacturer of a product that is already AMCA certified. The purpose of the precertification check test is to establish that the product will, in fact, perform as shown by the applicant's test results.

HOW TO MAINTAIN AMCA CERTIFICATION

Products that are certified at one point in time may lose their certification. In order to maintain AMCA certification, periodic check tests are required to verify that the product as manufactured continually performs as stated in the published performance data.

For certification, AMCA requires that an initial verification check test be performed within a specific time frame after the license appendix is issued. For prototype samples, the test must occur within one year of the license appendix. For production samples and alternate manufactured products, that time frame is three years. After that, verification check tests are performed on a three-year cycle. Once the manufacturer passes consecutive verification tests, the testing interval increases — first to every five years, then to every seven years. If a product line produces unsatisfactory test results, however, it must be check tested every year until it begins to pass consecutive tests.

In addition, a manufacturer must not violate any of the program requirements, as described in Table 2.

Table 2. Partial List of Violations to the AMCA Certified Ratings Programs (from AMCA Publication 11)

Case Number	Violation Description	CRP Web Page Where Notice is Posted	Initial Posting of Violation or License Withdrawal on Website	Removal of Posting of Violation or License Withdrawal from Website	Reference from AMCA 11
1	Non-licensed product represented as certified	Non-Licensed Product Selection	Added immediately upon discovery	As soon as product is licensed	10.7, 11.4.4, 11.5.2
2b	Publishing a catalog without marketing review, catalog performance change	Directory of Violation Notices	After 14 day grace period	When catalog is corrected and approved	9.10.1
3	Failure to provide check test sample	Enforced License Withdrawals	9 months after call for unit	5 years or until relicensed	9.10.2
5	Failure to correct product after a failed check test	Enforced License Withdrawals	6 months after failure if uncorrected	5 years or until relicensed	9.10.3.1, 4th paragraph
6	Changed product without notification	Enforced License Withdrawals	Immediately, when license is withdrawn from affected product	5 years or until relicensed	9.10.4
7	Failure to correct catalog after product line is withdrawn	Enforced License Withdrawals	60 days after license is withdrawn from affected product	5 years or until relicensed	9.10.5

LISTED AND LABELED PRODUCTS

In response to building code requirements in several U.S. states, AMCA manages louver listing label and damper secondary labeling programs. Listed and labeled products are required to meet different requirements than are AMCA-certified products. Therefore, "listed and labeled" does not equate to "certified" or vice versa.

CONCLUSION

The AMCA CRP provides great value to the industry: the accountability of published data. For that reason, it is important to be informed about the program and to be wary of misrepresentations. Testing in accordance with an AMCA standard does not mean the product is certified, and not all AMCA-certified products necessarily display a seal. What is more, the AMCA CRP has made publicly available the steps to certifying and the consequences for check test failure and non-compliance. The more manufacturers, specifiers and purchasers know about the AMCA CRP, the better for the self-regulated integrity of the industry.

AMCA CRP RESOURCES

AMCA International Headquarters and Laboratory
www.amca.org

Asia AMCA Offices and Testing Lab
www.asiaamca.org

AMCA White Papers
www.amca.org/whitepapers

CRP Publications (no cost) and Standards (cost)
www.amca.org/store

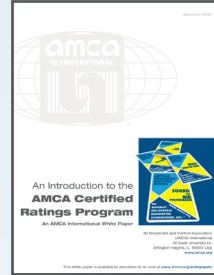
Searchable CRP Database of AMCA Certified Products
www.amca.org/certified-listed/cpsearch.php

AMCA Laboratory Accreditation Program
www.amca.org/testing/becomeaccredited-lab.php

AMCA Listing & Labeling Programs for Dampers and Louvers
www.amca.org/testing/aboutlistingandlabeling.php

DIRECTORY OF CRP WHITE PAPERS

available at www.amca.org/whitepapers:

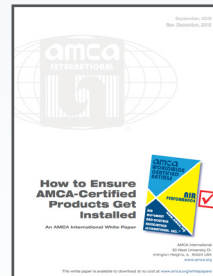


“AN INTRODUCTION TO THE AMCA CERTIFIED RATINGS PROGRAM” – Includes a detailed explanation of how the AMCA Certified Ratings Program (CRP) works and how to properly specify AMCA-certified products for air systems, plus a mapping of the different CRP seals/labels, publications and test standards applicable to the 21 air movement and control products covered by the CRP.



“GUIDELINESPECIFICATIONS FOR SELECTED AMCA-CERTIFIED PRODUCTS” – This white paper provides examples of specifications for AMCA-certified products that are of primary interest to the engineering community. It also provides a list of referenced AMCA standards and publications, as well as a list

of online resources from AMCA International websites.



“HOW TO ENSURE AMCA-CERTIFIED PRODUCTS GET INSTALLED” – This white paper describes what building industry professionals need to know to properly specify an AMCA-certified product and then ensure that product gets installed. Included are a handy step-by-step

checklist and several practical examples.



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