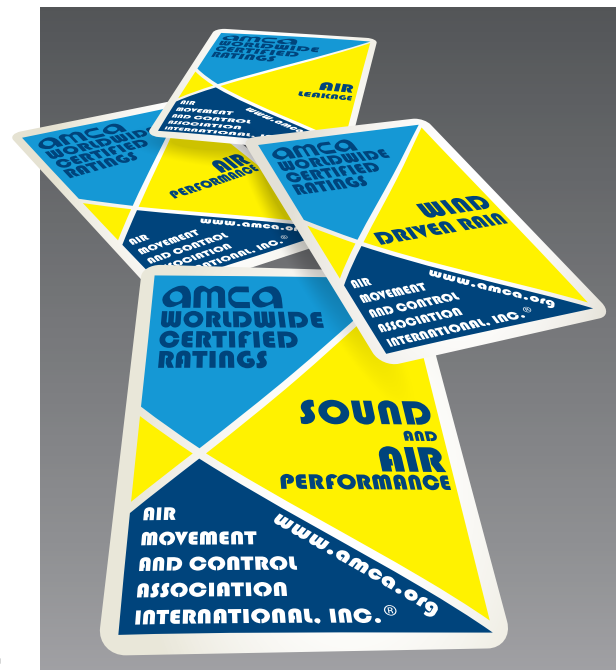




# An Introduction to the **AMCA Certified Ratings Program**

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 why products that undergo the rigorous certification process deserve to be specified ahead of products that do not. Additionally, it identifies the AMCA CRP publications and test standards associated with particular products. This white paper also provides clarity regarding a few misconceptions concerning the AMCA CRP and offers exemplary language that can be used for precise and enforceable specifications.**

## **INTRODUCTION**

Established in 1917, Air Movement and Control Association (AMCA) International Inc. is a not-for-profit organization dedicated to advancing the health, growth, and integrity of the air-movement-and-control industry consistent with the interests of the public. One of the ways it does this is by maintaining the AMCA Certified Ratings Program (CRP). In place for 75 years, the AMCA CRP assures not only that a product line has been tested and rated in conformance with AMCA standards and requirements, but that published performance ratings are accurate and, thus, reliable.

This white paper summarizes how the AMCA CRP works and why products that undergo the rigorous certification process deserve to be specified ahead of products that do not. Additionally, it identifies the AMCA CRP publications and test standards associated with particular air-system products.

This white paper also provides clarity regarding a few prevalent misconceptions concerning the AMCA CRP and offers exemplary language that can be used for precise and enforceable specifications.

## THE AMCA CRP

AMCA certifies 24 air-movement and control products (see Table 1, beginning on Page 5). Each is series-produced, meaning 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 (though they can 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 air-movement and control devices. Only after a product has been tested and the cataloged ratings have been approved can an AMCA CRP seal (Figure 1) be displayed.



FIGURE 1. AMCA CRP seals for fans and dampers (left) and louvers (right). Note multiple certifications can be combined on one label.

AMCA CRP seals are affixed to equipment and used in catalogs and sizing/selection software in accordance with procedures set forth in AMCA CRP publications, such as AMCA Publication 211, *Certified Ratings Program Product Rating Manual for Fan Air Performance*. AMCA CRP publications are covered in great detail later in this white paper.

Once a product line is certified, it is subject to check tests every three years, in either AMCA's laboratory or an independent AMCA-accredited laboratory. 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 A2LA (American Association for Laboratory Accreditation) to the requirements of ISO/IEC 17065, *Conformity Assessment—Requirements for Bodies Certifying Products, Processes and Services*.

Currently, 274 manufacturers around the world representing a total of 3,938 products are enrolled in the AMCA CRP. 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 23 percent (Figure 2).

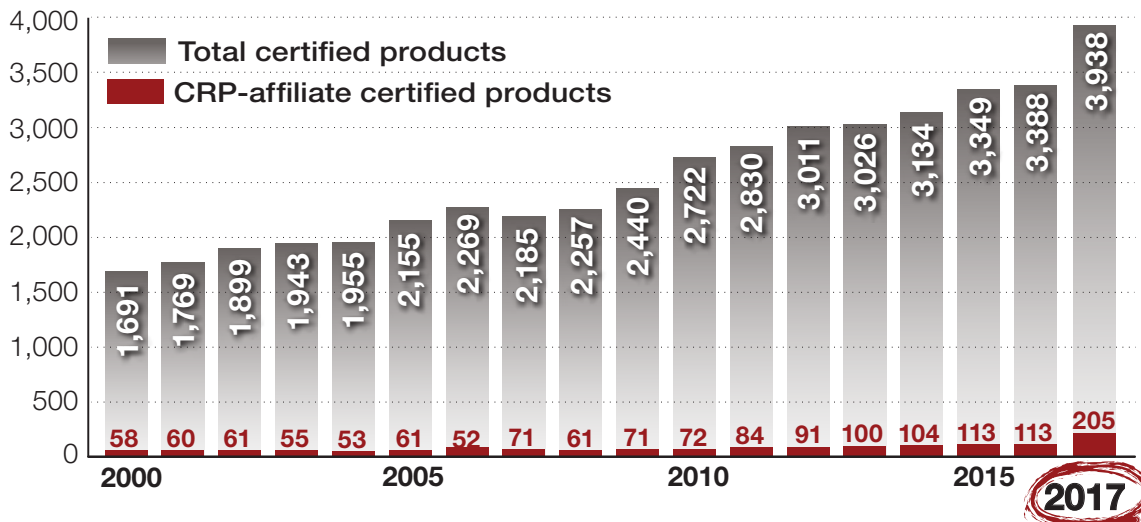


FIGURE 2. AMCA CRP growth.

## ABOUT THE AMCA SEAL

Manufacturers whose products are certified to bear the AMCA seal are not required to display it. Thus, in project submittals and specifications, it is best to specify products “must be certified to bear the AMCA seal.” Nevertheless, a requirement stating a product must bear the AMCA seal can be satisfied if literature showing the appropriate seal is included with a submittal.

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

Once a product is certified, an AMCA CRP seal can be applied only in accordance with the rules laid out in the CRP publication. For example, a seal can be associated only with a product currently certified to bear it and cannot be displayed on the cover of a catalog containing both certified and noncertified 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 certified 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 certified 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 read like this:

*The fan(s) must comply with AMCA Publication 211 and be certified to bear the AMCA Certified Ratings Program seal. The fan(s) 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-CERTIFIED VS. TESTED TO AN AMCA STANDARD

A common source of confusion is the difference between a product that is AMCA-certified and one that was tested to an AMCA standard. A product tested to an AMCA standard is not necessarily an AMCA-certified product. Figure 3 highlights the checks manufacturer product data undergo when submitted to the AMCA CRP. Only a product that passes these checks can be certified to bear the AMCA seal.

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.

Implementation of the AMCA CRP is defined and described in AMCA publications with title designations ending in “11”:

- AMCA Publication 11, *Certified Ratings Program Operating Manual*, which governs the CRP 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*,

### TERMINOLOGY

“License” and “certification” often are used interchangeably in discussions of the AMCA CRP. By AMCA’s definitions, however, “license” applies only to companies, while “certification” applies only to products and ratings.

which 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*, which governs fan sound ratings and certification.
- AMCA Publication 511, *Certified Ratings Program—Product Rating Manual for Air Control Devices*, which covers damper and louver certification.
- AMCA Publication 611, *Certified Ratings Program—Product Rating Manual for Airflow Measurement Stations*, which covers airflow-measurement stations.
- AMCA Publication 1011, *Certified Ratings Program—Product Rating Manual for Acoustical Duct Silencers*, which deals with acoustical duct silencers.

All CRP publications are available at no cost at [www.amca.org](http://www.amca.org).



### AMCA-Certified Product

Testing is performed at one of the following:

- AMCA laboratory (United States [Illinois] or Singapore)
- AMCA independent accredited laboratory
- AMCA-accredited laboratory

Precertification check test may be required to ensure a product will perform as shown by the applicant's test results.

AMCA staff ensures the product is tested in accordance with the appropriate test standard.

AMCA staff checks published catalog performance data for accuracy.

Published ratings for all certified products are accessible at [www.amca.org/certified](http://www.amca.org/certified).

Periodic check tests are done at one of the following:

- AMCA laboratory
- AMCA independent accredited laboratory

Challenge testing is available for any certified product.

### Noncertified Product

Testing may be performed at any laboratory, including:

- AMCA-accredited laboratory
- Non-AMCA laboratory
- Non-AMCA independent accredited laboratory

No verification of manufacturer claims a published test standard was followed.

No verification of accuracy of manufacturer test data.

FIGURE 3. Comparison of an AMCA-certified product with a noncertified product.

In specifications, after references to applicable AMCA CRP publications, the inclusion of test standards approved for a given certification bolsters confidence a product has undergone tests for important parameters. Approved test standards are listed in CRP publications.

AMCA offers many types of certifications. Series fans, for example, can be certified for air performance, sound, and energy efficiency. Table 1 provides a complete list of certification types, along with associated AMCA CRP publications and test standards.

## HOW PRODUCTS ARE CERTIFIED












Participants in the AMCA CRP agree to:






- Test their products.
- Submit test and catalog data for review by AMCA staff.
- Make their certified ratings public on AMCA's website.
- Periodically check-test their products.

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




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

TABLE 1. Certification types, publications, and test standards associated with the 24 products covered by the AMCA CRP.

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

<ul style="list-style-type: none"> <li>Induced-flow fans</li> </ul>		<ul style="list-style-type: none"> <li>AMCA Publication 211</li> <li>AMCA Publication 311</li> </ul>	<ul style="list-style-type: none"> <li>AMCA Standard 205</li> <li>ANSI/AMCA Standard 260, <i>Laboratory Methods of Testing Induced Flow Fans for Rating</i></li> <li>ANSI/AMCA Standard 300</li> </ul>
<ul style="list-style-type: none"> <li>Positive-pressure ventilators</li> </ul>		<ul style="list-style-type: none"> <li>AMCA Publication 211</li> </ul>	<ul style="list-style-type: none"> <li>ANSI/AMCA Standard 240, <i>Laboratory Methods of Testing Positive Pressure Ventilators for Aerodynamic Performance Rating</i></li> </ul>
<ul style="list-style-type: none"> <li>Airflow-measurement stations</li> </ul>		<ul style="list-style-type: none"> <li>AMCA Publication 611, <i>Certified Ratings Program—Product Rating Manual for Airflow Measurement Stations</i></li> </ul>	<ul style="list-style-type: none"> <li>ANSI/AMCA Standard 610, <i>Laboratory Methods of Testing Airflow Measurement Stations for Performance Rating</i></li> </ul>
<ul style="list-style-type: none"> <li>Dampers</li> </ul>		<ul style="list-style-type: none"> <li>AMCA Publication 511, <i>Certified Ratings Program—Product Rating Manual for Air Control Devices</i></li> </ul>	<ul style="list-style-type: none"> <li>ANSI/AMCA Standard 500-D, <i>Laboratory Methods of Testing Dampers for Rating</i></li> </ul>
<ul style="list-style-type: none"> <li>Louvers</li> </ul>		<ul style="list-style-type: none"> <li>AMCA Publication 511</li> </ul>	<ul style="list-style-type: none"> <li>ANSI/AMCA Standard 500-L, <i>Laboratory Methods of Testing Louvers for Rating</i></li> <li>ASTM E90, <i>Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements</i></li> </ul>



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

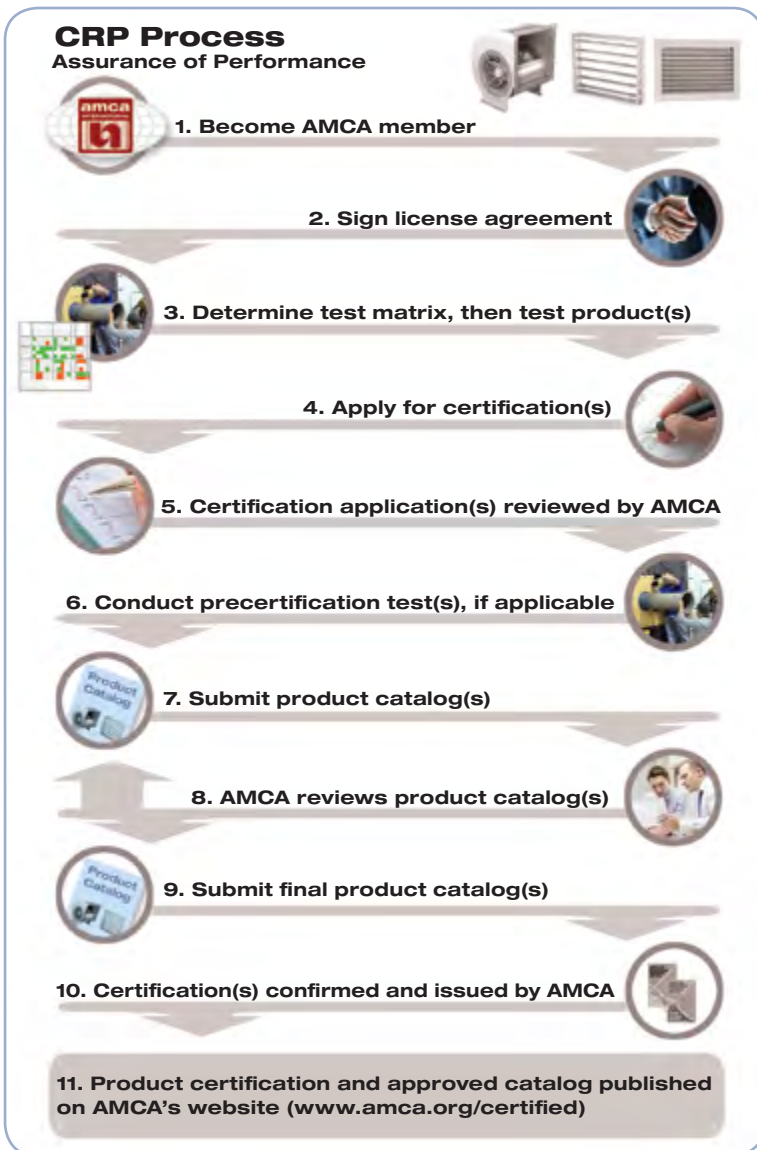


FIGURE 4. The 11 steps manufacturers must follow for their products to be certified to bear the AMCA CRP seal.



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

## HOW TO MAINTAIN AMCA CERTIFICATION

Products can lose their AMCA certification over time. Maintenance of certification requires periodic check tests to verify a product continues to perform as stated in published data.

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

CRP participants must adhere to all requirements of the program (Table 2).

TABLE 2. Partial list of violations of the AMCA CRP (from AMCA Publication 11).

Case Number	Violation Description	Where Notice Is Posted ( <a href="http://bit.ly/CRP_Violations">http://bit.ly/CRP_Violations</a> )	Initial Posting of Violation or Certification Withdrawal on Website	Removal of Posting of Violation or Certification Withdrawal From Website	Reference From AMCA 11
1	Noncertified product presented as certified	Non-Certified Products	Added immediately upon discovery	As soon as product is certified	10.7, 11.4.4, 11.5.2
2b	Publishing a catalog without marketing review, catalog performance change	Program Violation Notices	After 14-day grace period	When catalog is corrected and approved	9.10.1
3	Failure to provide check-test sample	Enforced Certification Withdrawals	Nine months after call for unit	Five years or until recertification	9.10.2
5	Failure to correct product after a failed check test	Enforced Certification Withdrawals	Six months after failure, if uncorrected	Five years or until recertification	9.10.3.1, fourth paragraph
6	Changed product without notification	Enforced Certification Withdrawals	Immediately, when certification is withdrawn from affected product	Five years or until recertification	9.10.4
7	Failure to correct catalog after product line is withdrawn	Enforced Certification Withdrawals	60 days after certification is withdrawn from affected product	Five years or until recertification	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. Requirements for listed and labeled products are different than those for AMCA-certified products. Therefore, “listed and labeled” does not equate to “certified” and vice versa.

## CONCLUSION

Through the accountability that comes with published data, the AMCA CRP provides great value to the industry. Thus, it is important to be informed about the program and to be wary of misrepresentations. Tested in accordance with an AMCA standard does not mean AMCA-certified, and not all AMCA-certified products bear an AMCA seal. With the steps to certification and the consequences for check-test failure and noncompliance publicly available, the more manufacturers, specifiers, and purchasers know about the AMCA CRP, the greater the integrity of the industry’s efforts to self-regulate.

## AMCA CRP RESOURCES

AMCA International  
[www.amca.org](http://www.amca.org)

Asia AMCA  
[www.asiaamca.org](http://www.asiaamca.org)

AMCA white papers  
[www.amca.org/whitepapers](http://www.amca.org/whitepapers)

AMCA publications and standards  
[www.amca.org/store](http://www.amca.org/store)

Searchable database of AMCA-certified products  
[www.amca.org/certified-listed/cpsearch.php](http://www.amca.org/certified-listed/cpsearch.php)

AMCA Laboratory Accreditation Program  
[www.amca.org/testing/becomeaccreditedlab.php](http://www.amca.org/testing/becomeaccreditedlab.php)

AMCA listing and labeling programs  
[www.amca.org/testing/aboutlistingandlabeling.php](http://www.amca.org/testing/aboutlistingandlabeling.php)

## OTHER CRP WHITE PAPERS

Available at [www.amca.org/whitepapers](http://www.amca.org/whitepapers):



**GUIDELINE SPECIFICATIONS FOR SELECTED AMCA-CERTIFIED PRODUCTS**—This white paper provides examples of specifications for AMCA-certified products 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.



**HOW TO ENSURE AMCA-CERTIFIED PRODUCTS GET INSTALLED**—This white paper describes what building-industry professionals need to know to specify an AMCA-certified product and ensure the product gets installed. Included are a handy step-by-step checklist and several practical examples.



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