



AMCA International

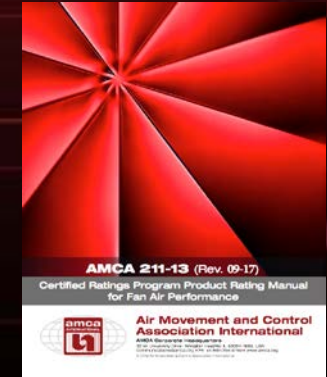
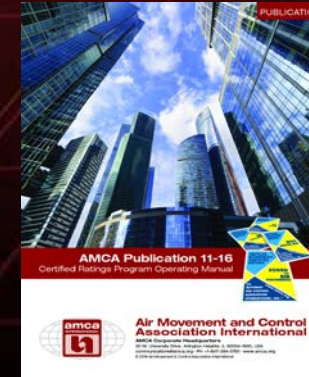
Specifying AMCA-Certified Products

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AMCA International

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Air System Engineering & Technology (ASET) Conference-US

San Antonio, TX • Hyatt Regency San Antonio Riverwalk • March 6 - 7, 2018

Professional Development Hours (PDH) Certificates

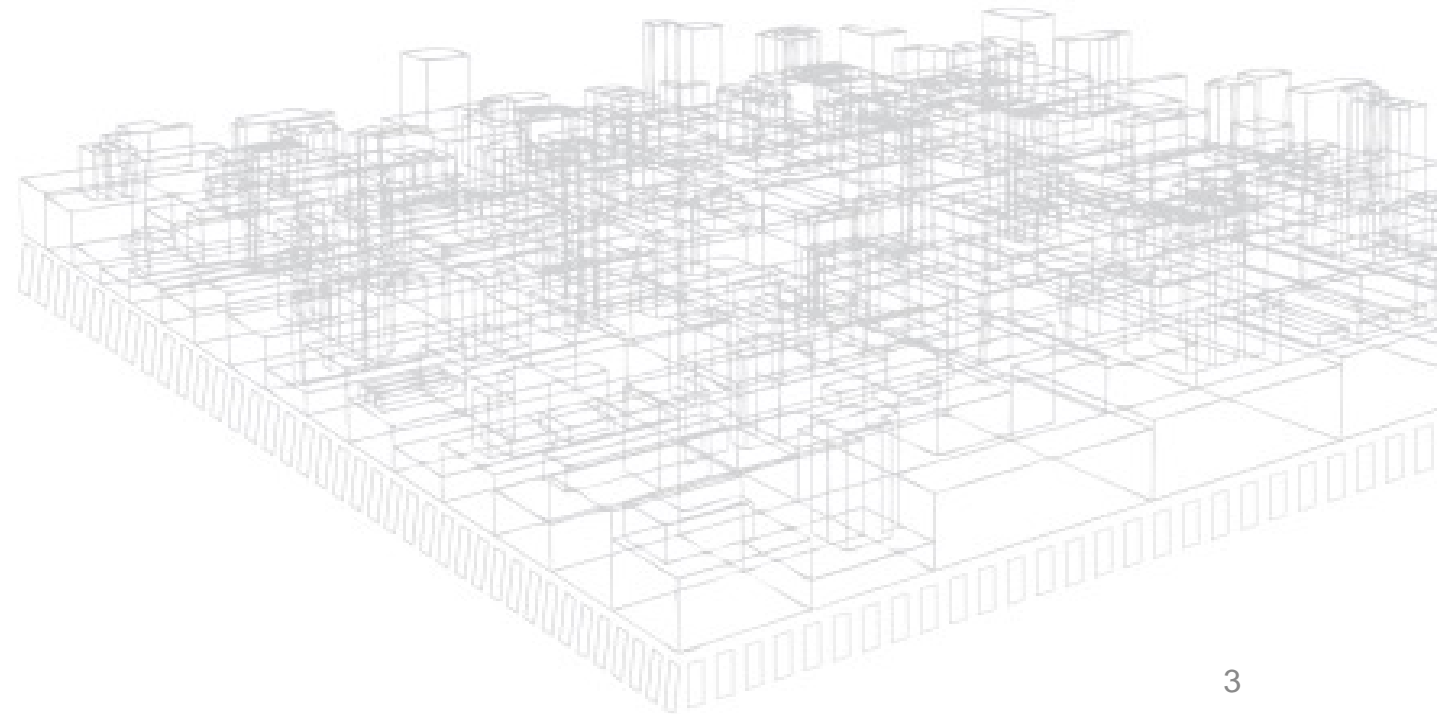
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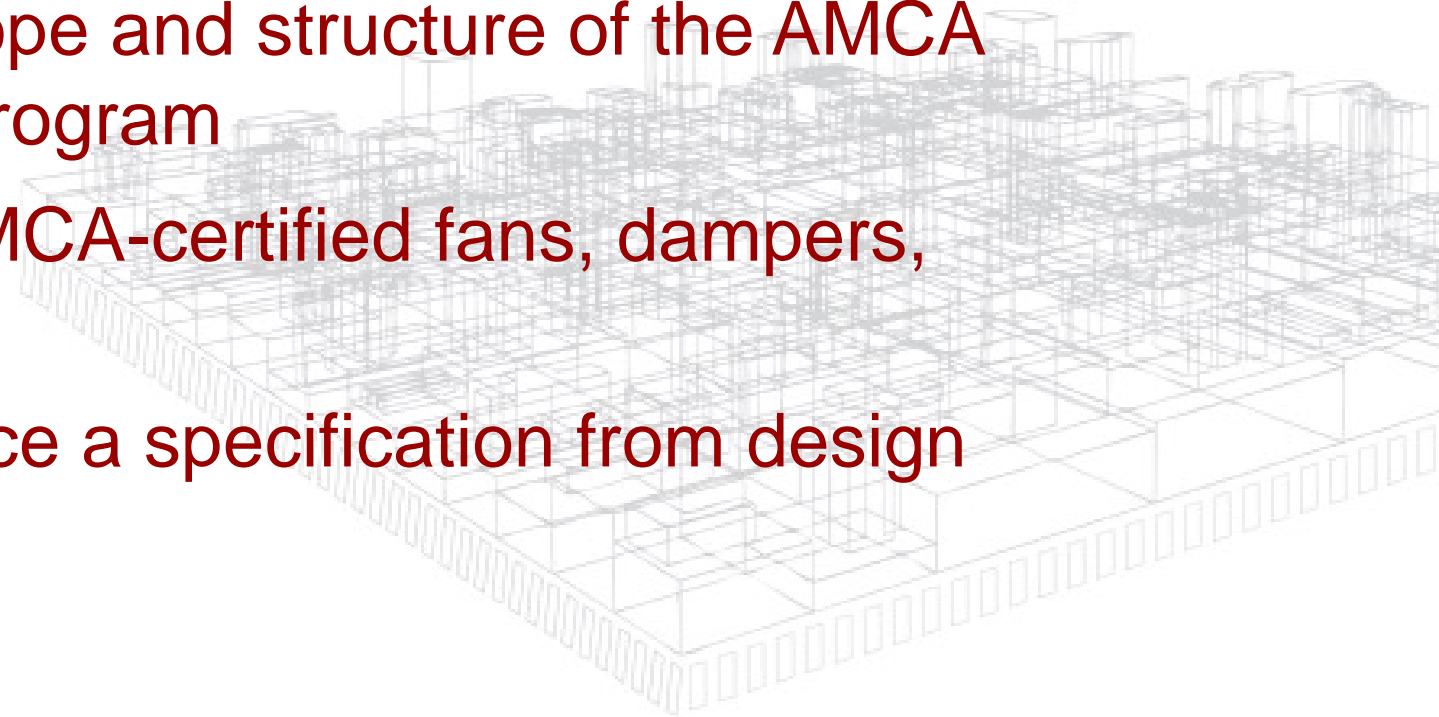
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Learning Objectives

- Understand that AMCA International is a global manufacturers association
- Know the basic scope and structure of the AMCA Certified Ratings Program
- Properly specify AMCA-certified fans, dampers, and louvers
- Know how to enforce a specification from design through installation



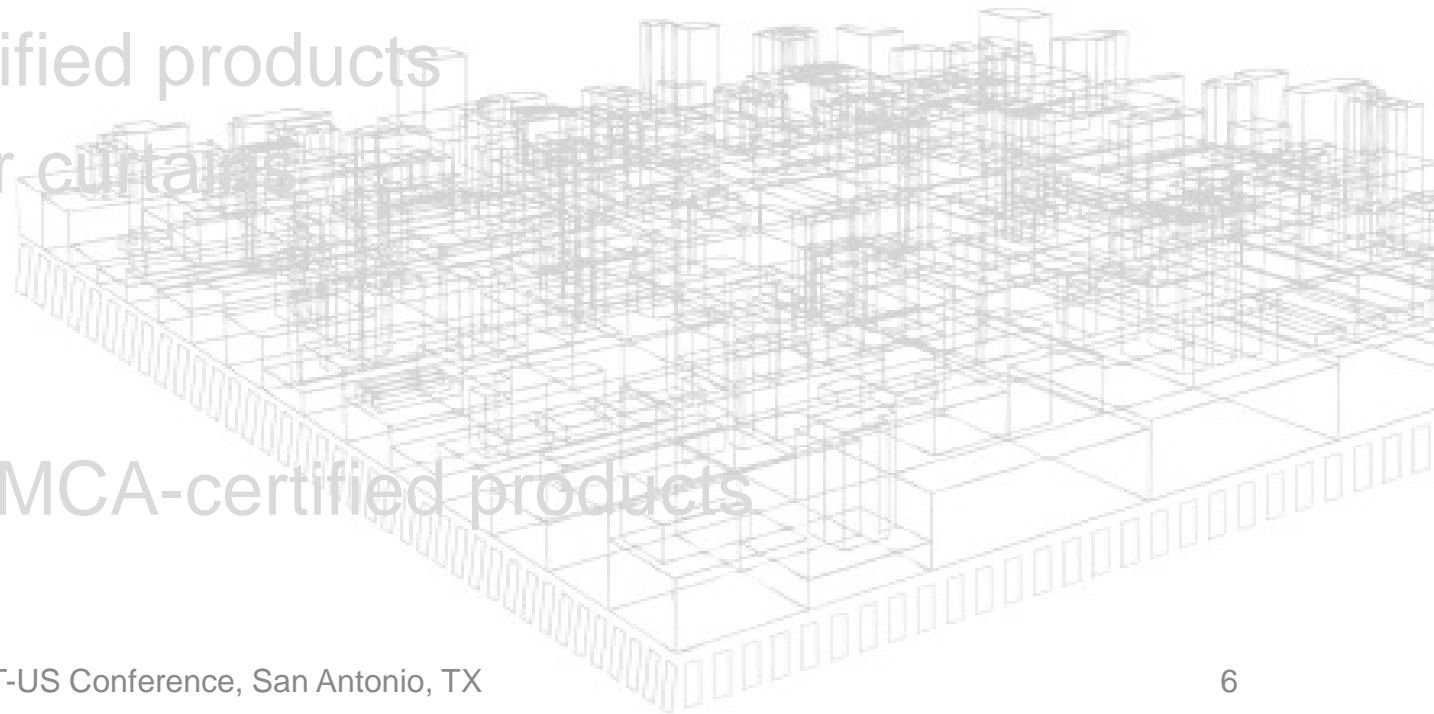
Agenda

- About AMCA International
- About AMCA International laboratories
- About the AMCA Certified Ratings Program
- How to Specify AMCA-certified products
- How to specify fans and air curtains
- How to specify dampers
- How to specify louvers
- How to enforce usage of AMCA-certified products

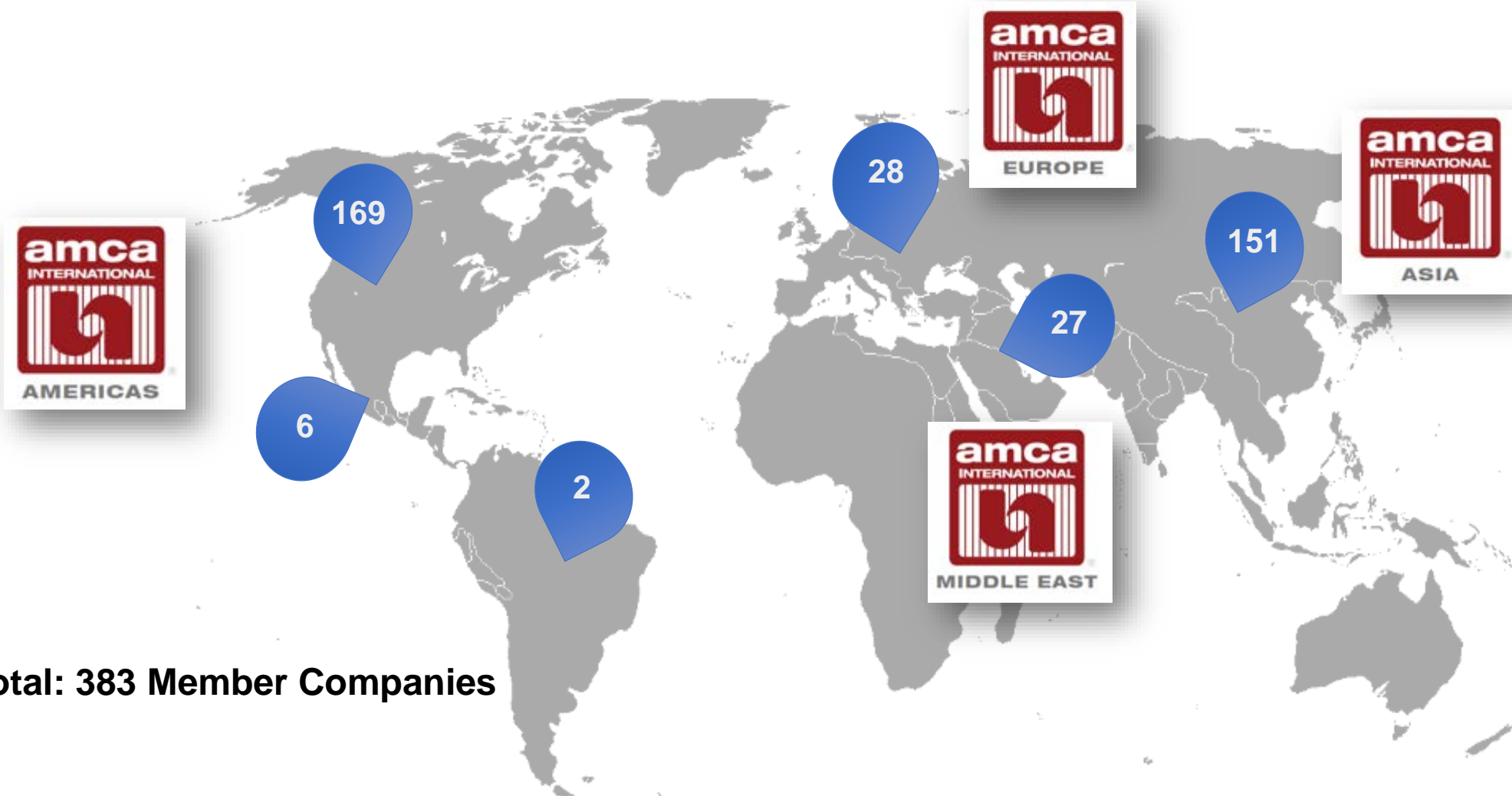


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- **About AMCA International**
- About AMCA International laboratories
- About the AMCA Certified Ratings Program
- How to Specify AMCA-certified products
- How to specify fans and air curtains
- How to specify dampers
- How to specify louvers
- How to enforce usage of AMCA-certified products



AMCA Truly is a Global Association



Total: 383 Member Companies

AMCA Scope of Products

- Air curtains
- Fans for residential/commercial
- Fans for fire/smoke control
- Fans for industrial processes
- Fans for power-plants
- Fire & smoke dampers
- Fixed and adjustable louvers
- ...and more



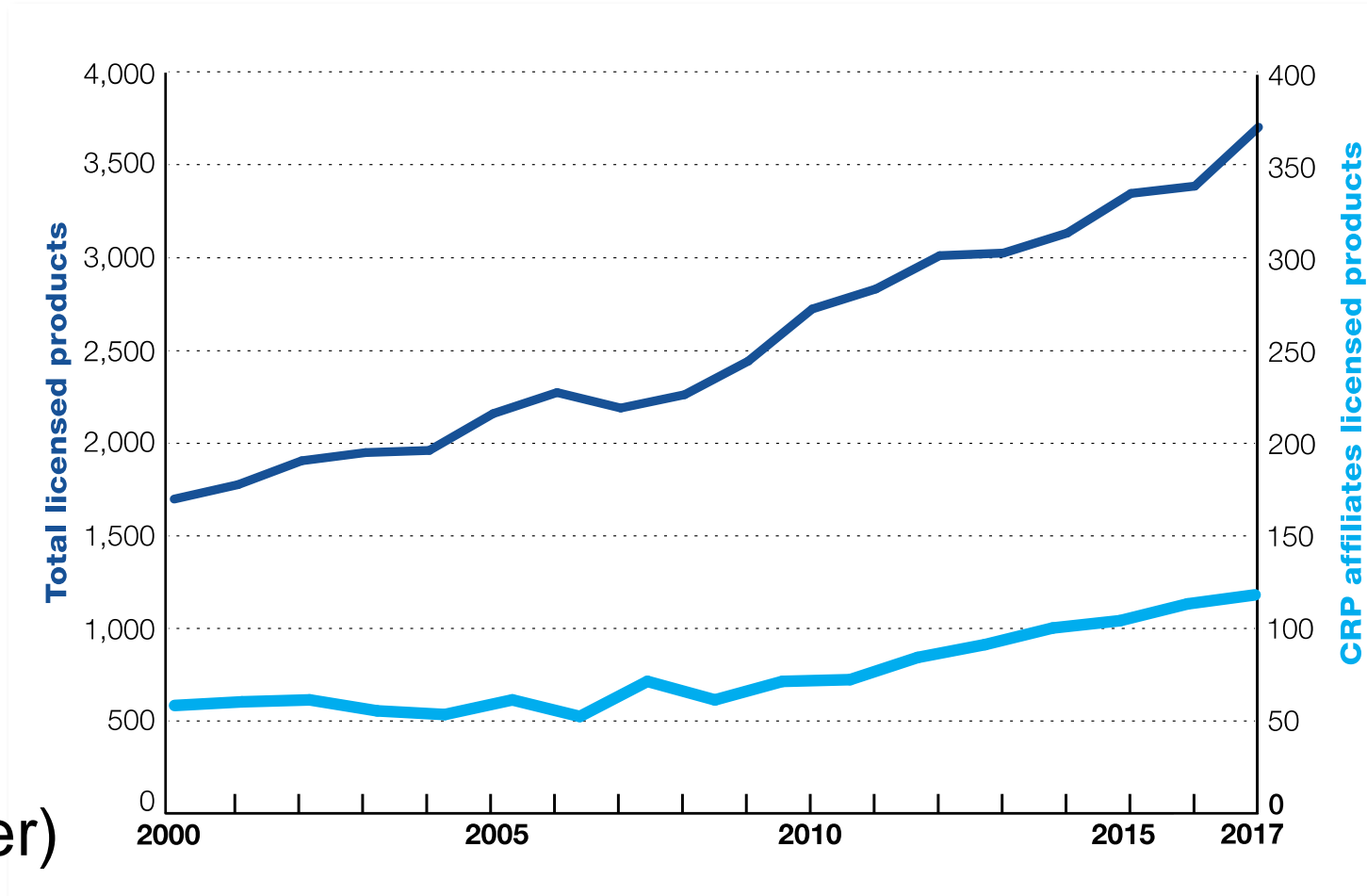
AMCA Members' Products Are Used In

- Commercial exhaust and ventilation systems
- Industrial facilities and processes
- Data centers and high-tech facilities
- Power plants
- Gas, oil, mining and other heavy industries
- Food processing
- Waste water treatment



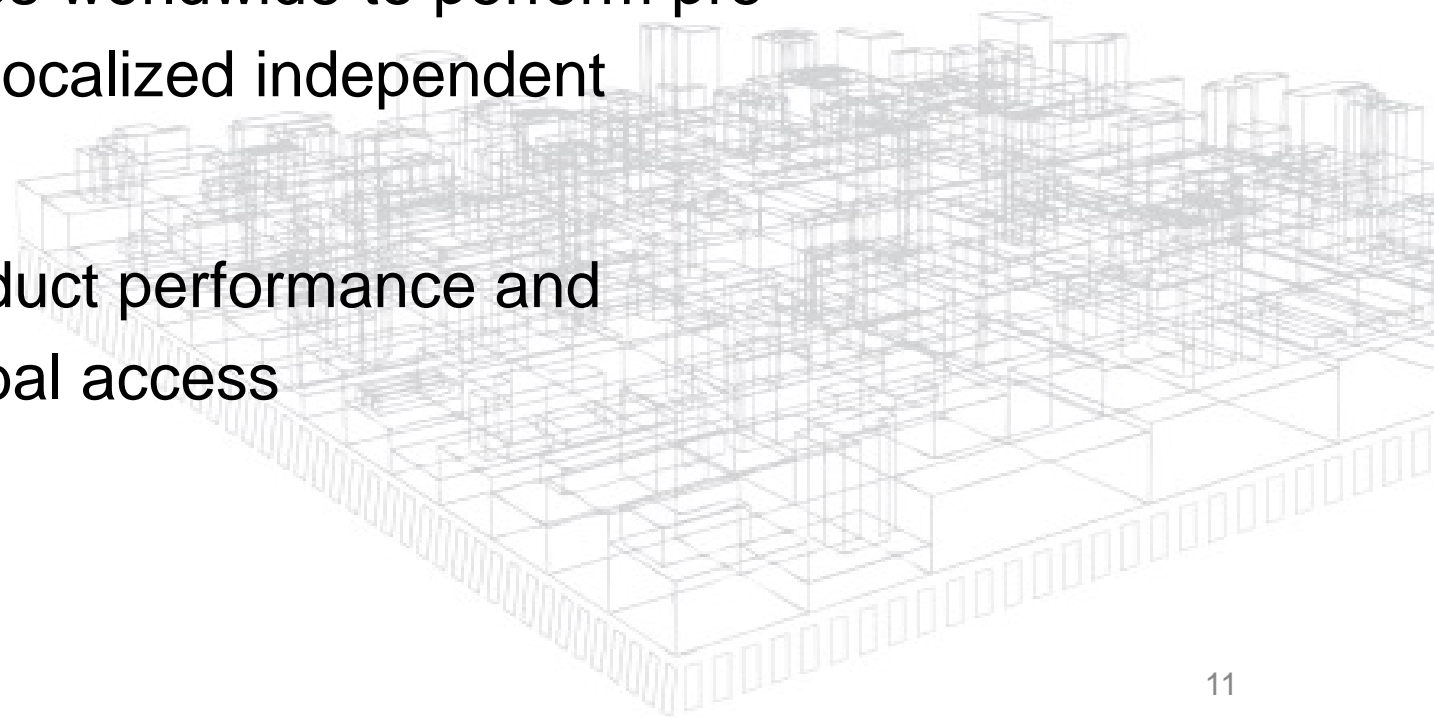
Introducing the AMCA Certified Ratings Program

- Over 50 years...
- Program continues to experience steady growth
- > 3500 products
- > 120 companies
- Program is the core of AMCA's value chain
- Can be "affiliate" (non-member)



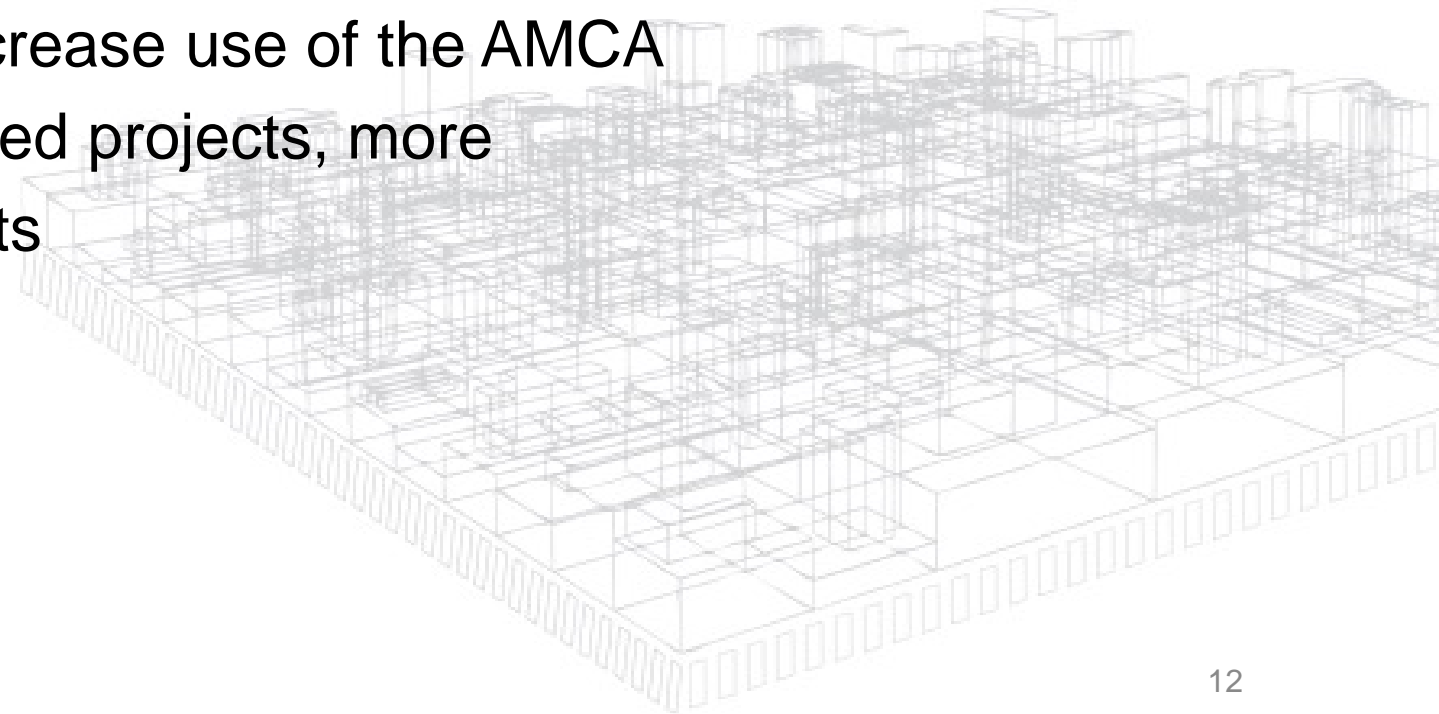
AMCA Value Chain

- AMCA International standards for testing products for rating
- AMCA tests products as one step in product certification
- AMCA accredits other laboratories worldwide to perform pre-certification tests and to provide localized independent testing services for certification
- AMCA full-time staff certifies product performance and maintain online database for global access



AMCA Value Chain

- AMCA marketing and publications staffs develop and administer marketing and training programs to promote and facilitate engineer's specification of AMCA-certified products
- As engineers and contractors increase use of the AMCA CRP by specifying AMCA-specified projects, more manufacturers will certify products
 - Domestically
 - Import / Export market



AMCA Value Chain


AMCA Certified Ratings

STANDARD

**ANSI/AMCA
Standard 210-16**

**ASHRAE
Standard 51-16**

**Laboratory Methods of Testing
Fans for Certified Aerodynamic
Performance Rating**



**Air Movement and Control
Association International**

AMCA Corporate Headquarters
30 W. University Drive, Arlington Heights, IL 60004-1803, USA
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AMCA Test Standards



AMCA Testing.
AMCA Lab Accreditation
AMCA Independent Labs

Engineers
Specify AMCA

Company ABC
Model WDSL123

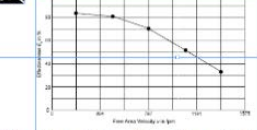
**AMCA
WORLDWIDE
CERTIFIED
RATINGS**

**AIR
PERFORMANCE**

Company ABC, WDSL 123 shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publications 51.1 and comply with the requirements of the AMCA Certified Ratings Program.

The certified ratings seal applies to wind driven sand and air performance ratings.

Test Information:
Tested for wind driven sand performance in accordance with ANSI/AMCA Standard 500-L, Figure 5.12. Test sample size is 1200 mm x 1200 mm (48 in. x 48 in.) with a tolerance of +0, -6 mm (0, -0.25 in.). Wind driven sand performance data are based on reliable performance.



Free Area Velocity (ft/min)	Free Area Velocity (m/s)	Efficiency (%)
100	2.54	85
200	5.08	80
300	7.62	75
400	10.16	70
500	12.70	65
600	15.24	60
700	17.78	55
800	20.32	50
900	22.86	45
1000	25.40	40

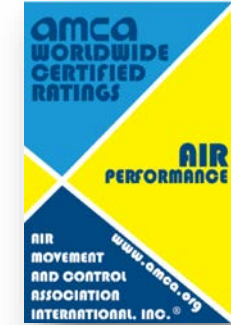
WDSL 123 FGFP ARFA (SQ. FT.)

Weight	12	15	20	25	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	
12	0.133	0.206	0.403	0.604	0.806	1.008	1.210	1.412	1.614	1.816	2.018	2.220	2.422	2.624	2.826	3.028	3.230	3.432	3.634	3.836	4.038
15	0.220	0.435	0.870	1.305	1.740	2.175	2.610	3.045	3.480	3.915	4.350	4.785	5.220	5.655	6.090	6.525	6.960	7.395	7.830	8.265	8.700
20	0.300	0.600	1.200	1.800	2.400	3.000	3.600	4.200	4.800	5.400	6.000	6.600	7.200	7.800	8.400	9.000	9.600	10.200	10.800	11.400	12.000
25	0.375	0.750	1.500	2.250	3.000	3.750	4.500	5.250	6.000	6.750	7.500	8.250	9.000	9.750	10.500	11.250	12.000	12.750	13.500	14.250	15.000
30	0.450	0.900	1.800	2.700	3.600	4.500	5.400	6.300	7.200	8.100	9.000	9.900	10.800	11.700	12.600	13.500	14.400	15.300	16.200	17.100	18.000
36	0.540	1.080	2.160	3.240	4.320	5.400	6.480	7.560	8.640	9.720	10.800	11.880	12.960	14.040	15.120	16.200	17.280	18.360	19.440	20.520	21.600
42	0.630	1.260	2.520	3.780	5.040	6.300	7.560	8.820	10.080	11.340	12.600	13.860	15.120	16.380	17.640	18.900	20.160	21.420	22.680	23.940	25.200
48	0.720	1.440	2.880	4.320	5.760	7.200	8.640	10.080	11.520	12.960	14.400	15.840	17.280	18.720	20.160	21.600	23.040	24.480	25.920	27.360	28.800
54	0.810	1.620	3.240	4.860	6.480	8.100	9.720	11.340	12.960	14.580	16.200	17.820	19.440	21.060	22.680	24.300	25.920	27.540	29.160	30.780	32.400
60	0.900	1.800	3.600	5.400	7.200	9.000	10.800	12.600	14.400	16.200	18.000	19.800	21.600	23.400	25.200	27.000	28.800	30.600	32.400	34.200	36.000
66	0.990	1.980	3.960	5.940	7.920	9.900	11.880	13.860	15.840	17.820	19.800	21.780	23.760	25.740	27.720	29.700	31.680	33.660	35.640	37.620	39.600
72	1.080	2.160	4.320	6.480	8.640	10.800	12.960	15.120	17.280	19.440	21.600	23.760	25.920	28.080	30.240	32.400	34.560	36.720	38.880	41.040	43.200
78	1.170	2.340	4.680	7.020	9.360	11.700	14.100	16.500	18.900	21.300	23.700	26.100	28.500	30.900	33.300	35.700	38.100	40.500	42.900	45.300	47.700
84	1.260	2.520	5.040	7.560	10.080	12.600	15.120	17.640	20.160	22.700	25.200	27.700	30.200	32.700	35.200	37.700	40.200	42.700	45.200	47.700	50.200
90	1.350	2.700	5.400	8.100	10.800	13.500	16.200	18.900	21.600	24.300	27.000	29.700	32.400	35.100	37.800	40.500	43.200	45.900	48.600	51.300	54.000
96	1.440	2.880	5.760	8.640	11.520	14.400	17.280	20.160	23.040	25.920	28.800	31.680	34.560	37.440	40.320	43.200	46.080	48.960	51.840	54.720	57.600
102	1.530	3.060	6.120	9.180	12.240	15.300	18.360	21.420	24.480	27.540	30.600	33.660	36.720	39.780	42.840	45.900	48.960	52.020	55.080	58.140	61.200
108	1.620	3.240	6.480	9.720	12.960	16.200	19.440	22.500	25.560	28.620	31.680	34.740	37.800	40.860	43.920	46.980	50.040	53.100	56.160	59.220	62.280
114	1.710	3.420	6.840	10.260	13.680	17.100	20.160	23.040	26.000	29.000	32.000	35.000	38.000	41.000	44.000	47.000	50.000	53.000	56.000	59.000	62.000
120	1.800	3.600	7.200	10.800	14.400	18.000	21.000	24.000	27.000	30.000	33.000	36.000	39.000	42.000	45.000	48.000	51.000	54.000	57.000	60.000	63.000

Catalog ID: WDSL 123 - November 2018

NOTE:
This sample catalog contains only the items required for certification. Additional information, such as construction details, installation instructions, pictures, etc., may be added as necessary.

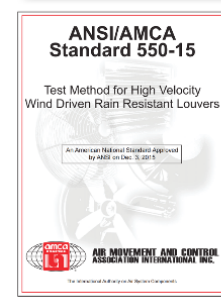
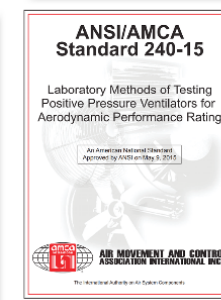
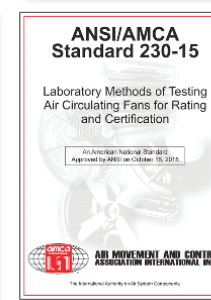
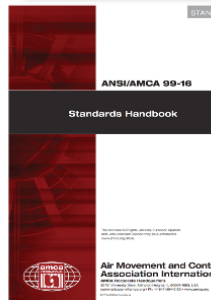
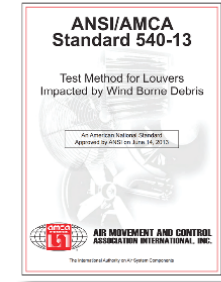
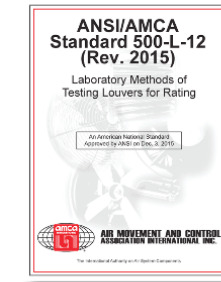
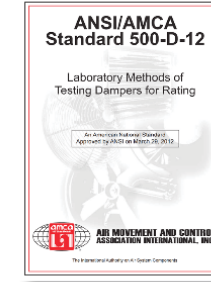
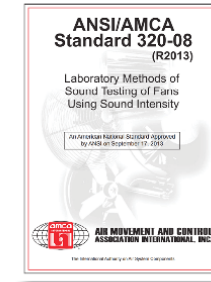
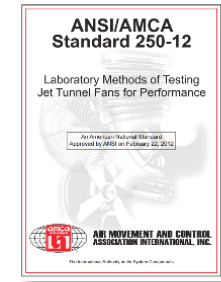
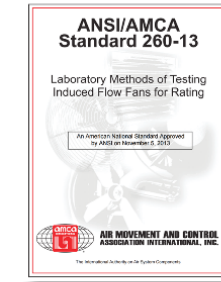
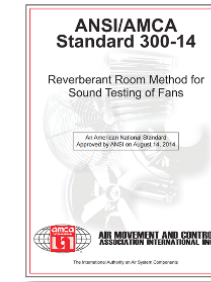
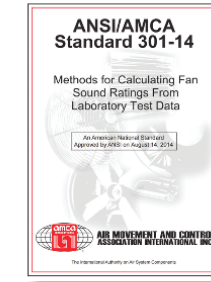
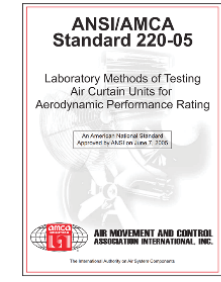
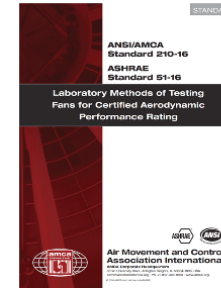
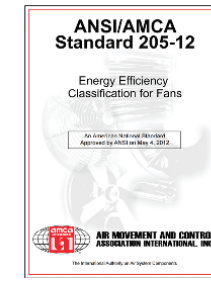
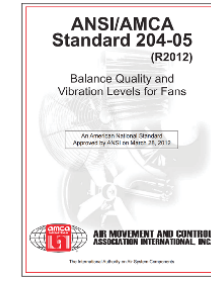
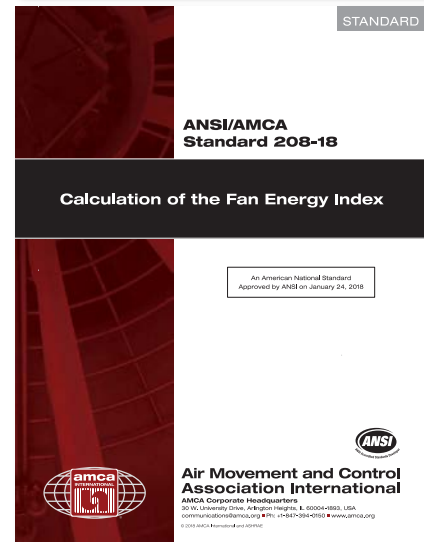
Figure C.3
Example Louver Wind Driven Sand Performance Catalog



- 18 ANSI-Accredited Testing & Rating Standards

- Plus:

- Application Guides
- White Papers
- Videos
- Magazine
- Social Media



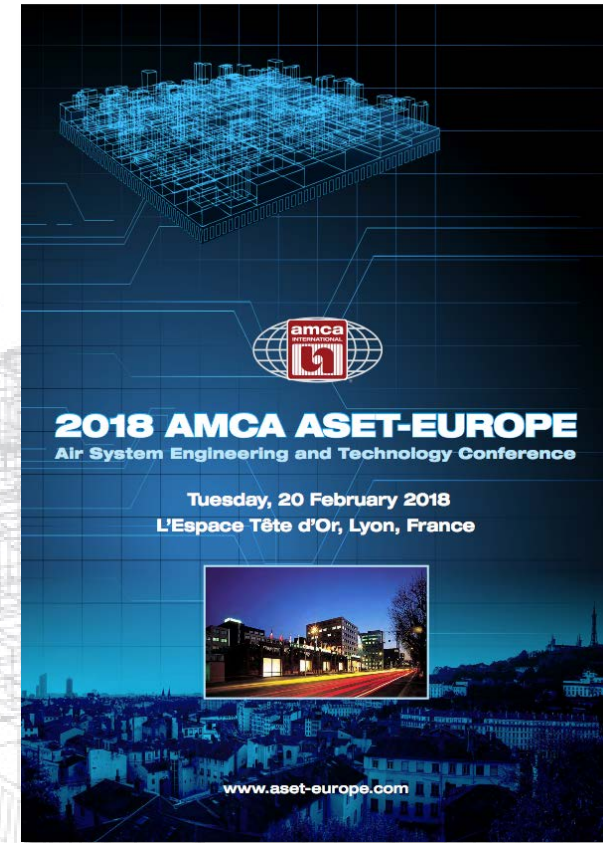
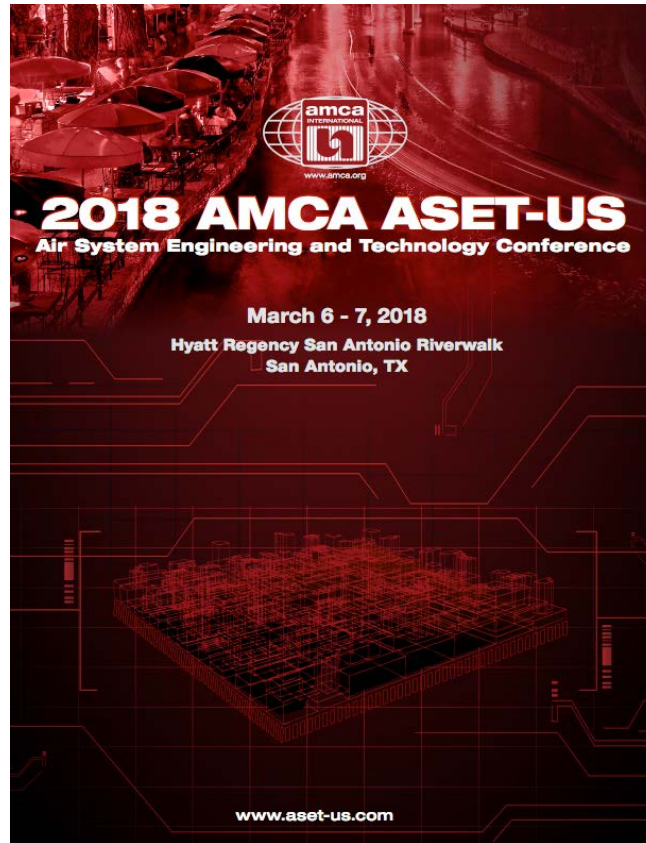
The AMCA Certified Ratings Program (CRP)

- Helps ensure honest and accurate product ratings
- Ratings based on data from approved test standards
- Ratings presented based on approved data interpretations and formatting
- Enables easy and accurate comparison of products from different manufacturers



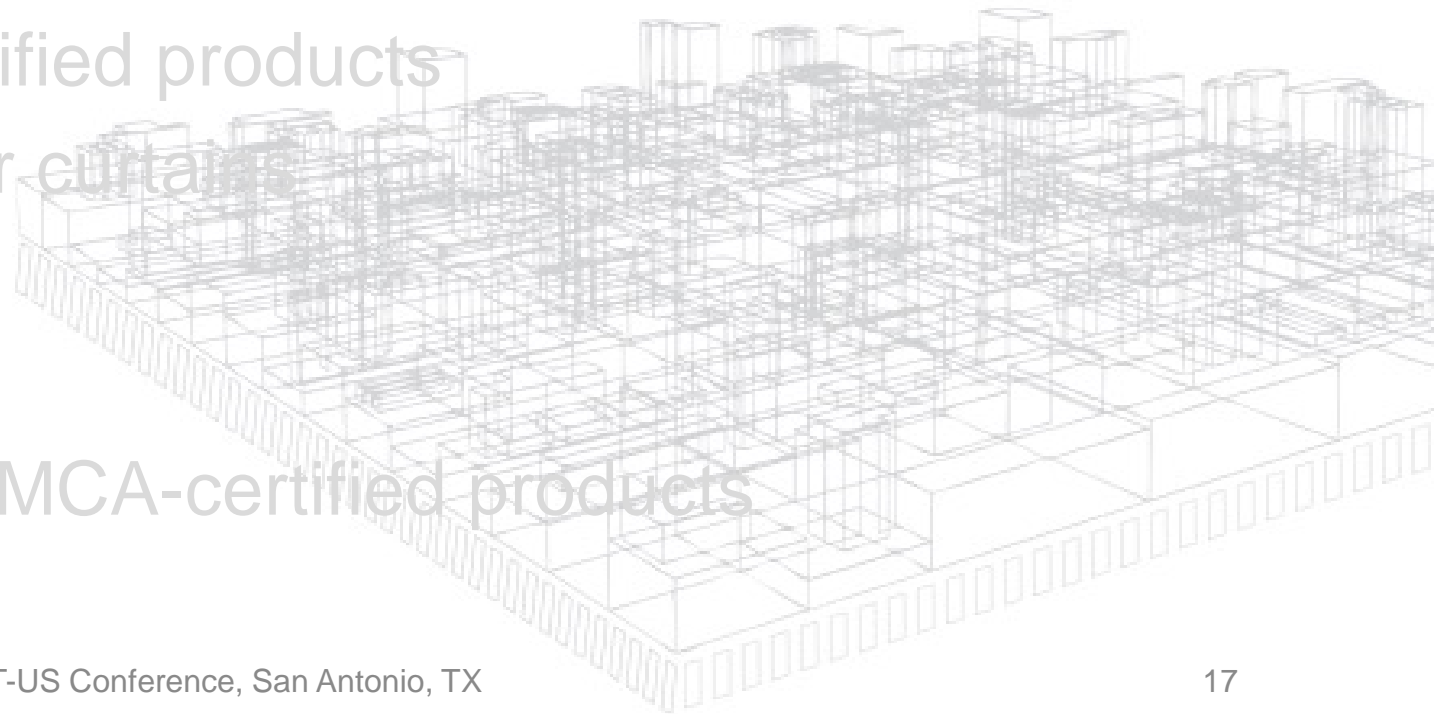
AMCA Educational Programs

- Meetings
- Conferences
- Engineering Seminars, Workshops
- U.S.
- Asia
- Middle East
- Europe



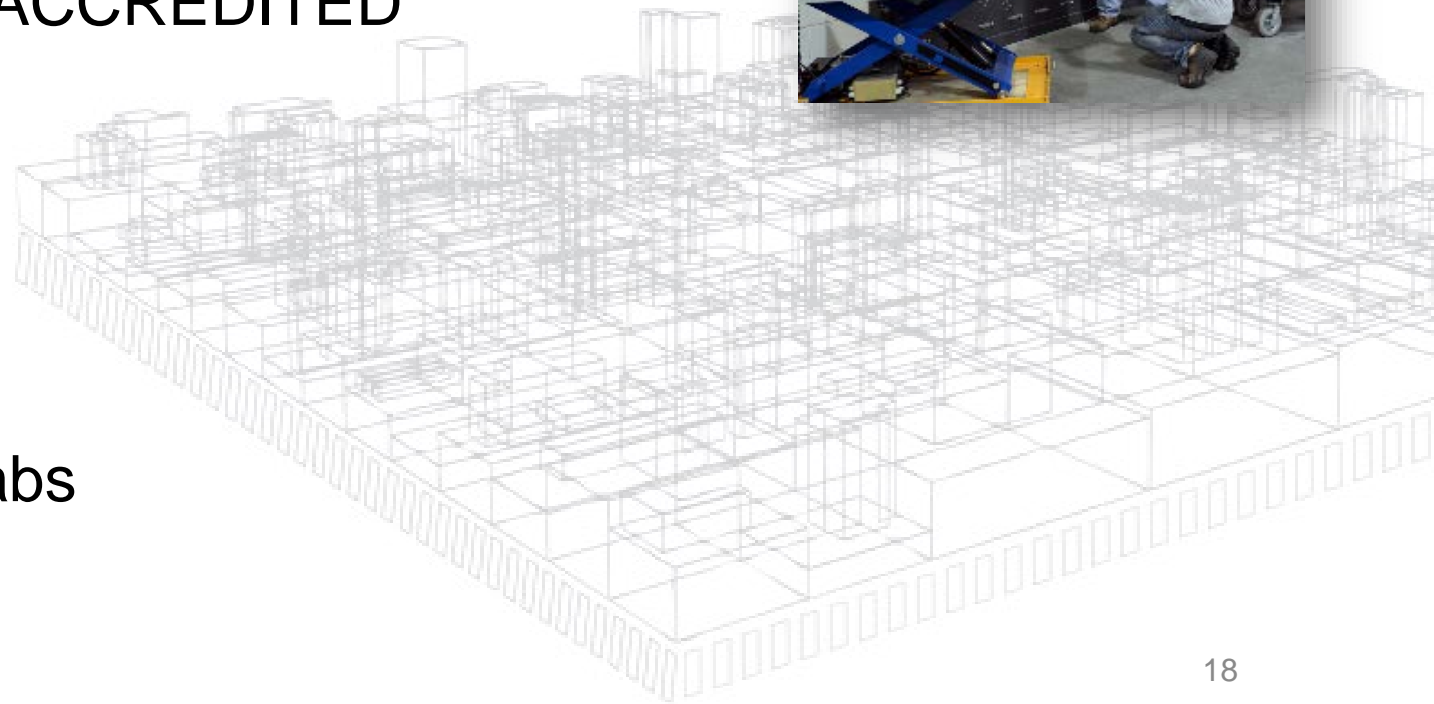
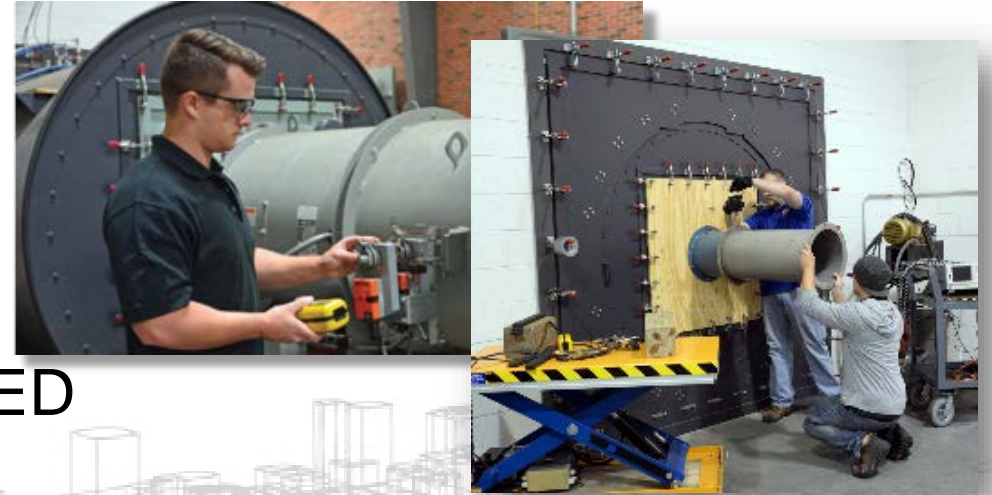
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AMCA Testing & Laboratories

- Worldwide
 - AMCA Lab in USA is worldwide benchmark laboratory
 - Regional INDEPENDENT ACCREDITED labs
 - Dubai
 - Malaysia
 - France
 - S. Korea
 - Accredited manufacturer labs
 - Reduce cost of testing
 - > 50 worldwide



AMCA Independent Accredited Labs



AMCA Lab
Illinois, USA



CETIAT
Lyon, France



KTC
Gyeonggi-do,
Republic of Korea



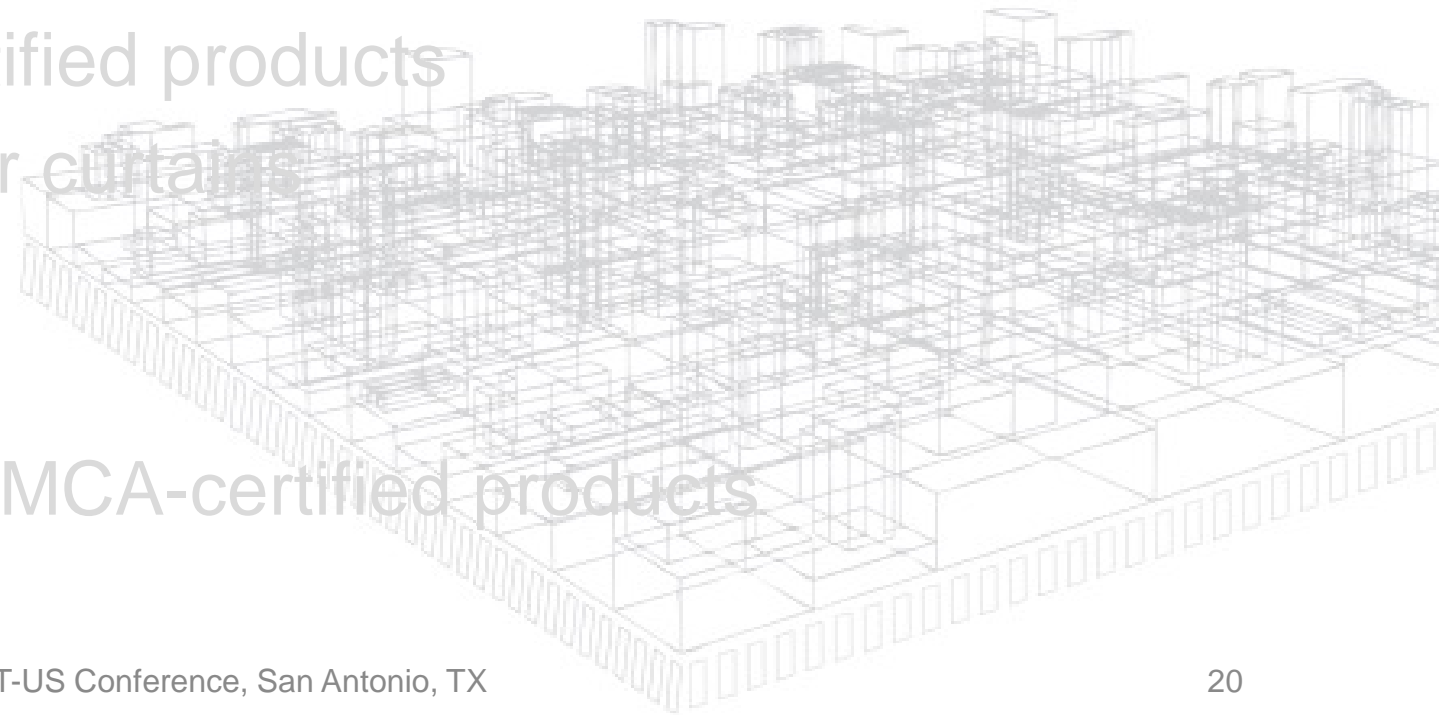
Thomas Bell-Wright
Dubai, UAE



Asia AMCA Lab,
Johor, Malaysia

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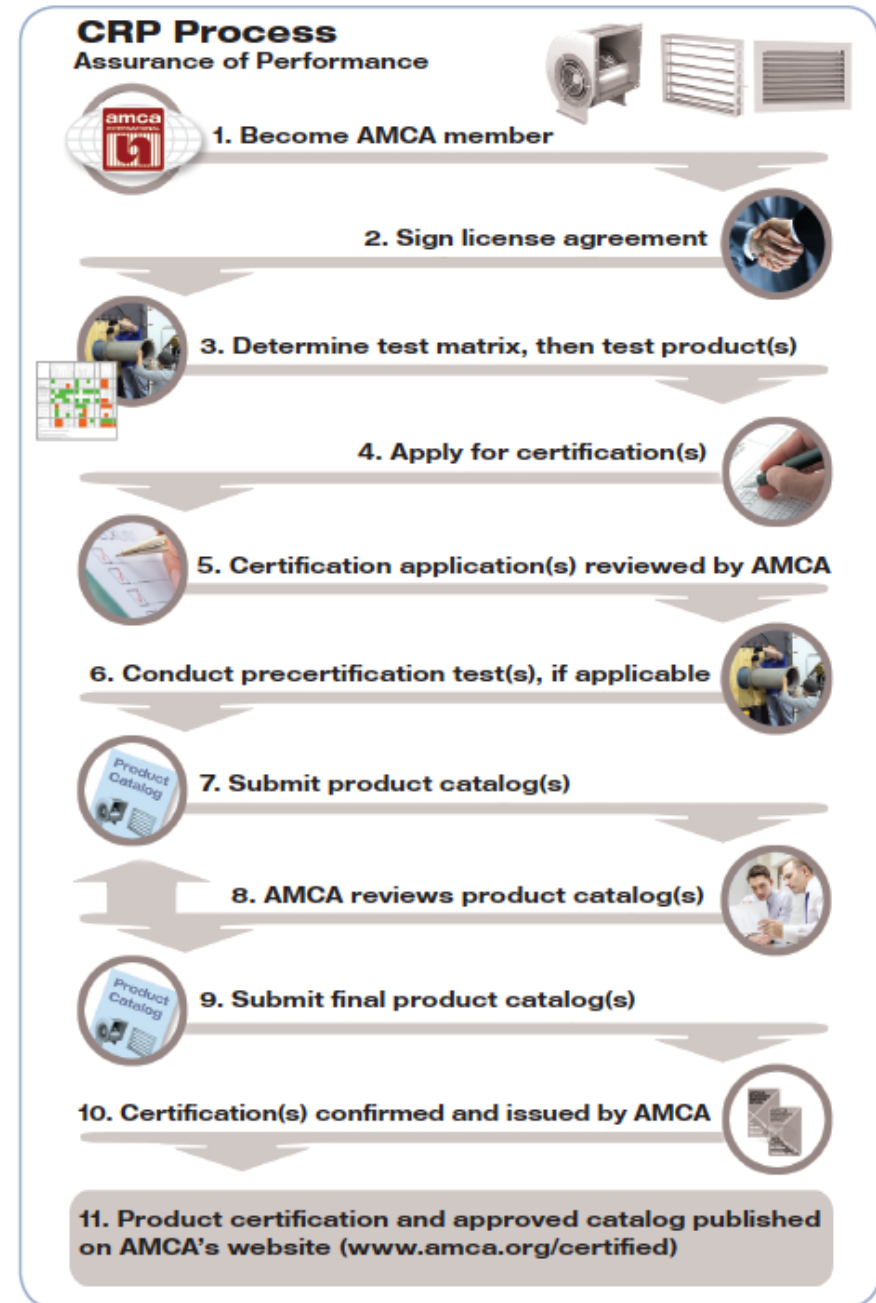


Why Specify Certified Products?

- If systems should perform as *expected*
- ... products should perform as *rated*
- Independent certification increases reliability of ratings
- *Standard ratings data parameters and statements* enable apples-to-apples comparisons
- Periodic "check testing" helps ensure ratings are accurate over time
- Program requires that catalogs are up to date and that AMCA staff check catalog revisions

Certified Ratings Program

- 11 Steps
- Takes approximately 12 months
- Involves rigorous testing and evaluation
- Requires companies to sign license agreement
- Certifications can be challenged



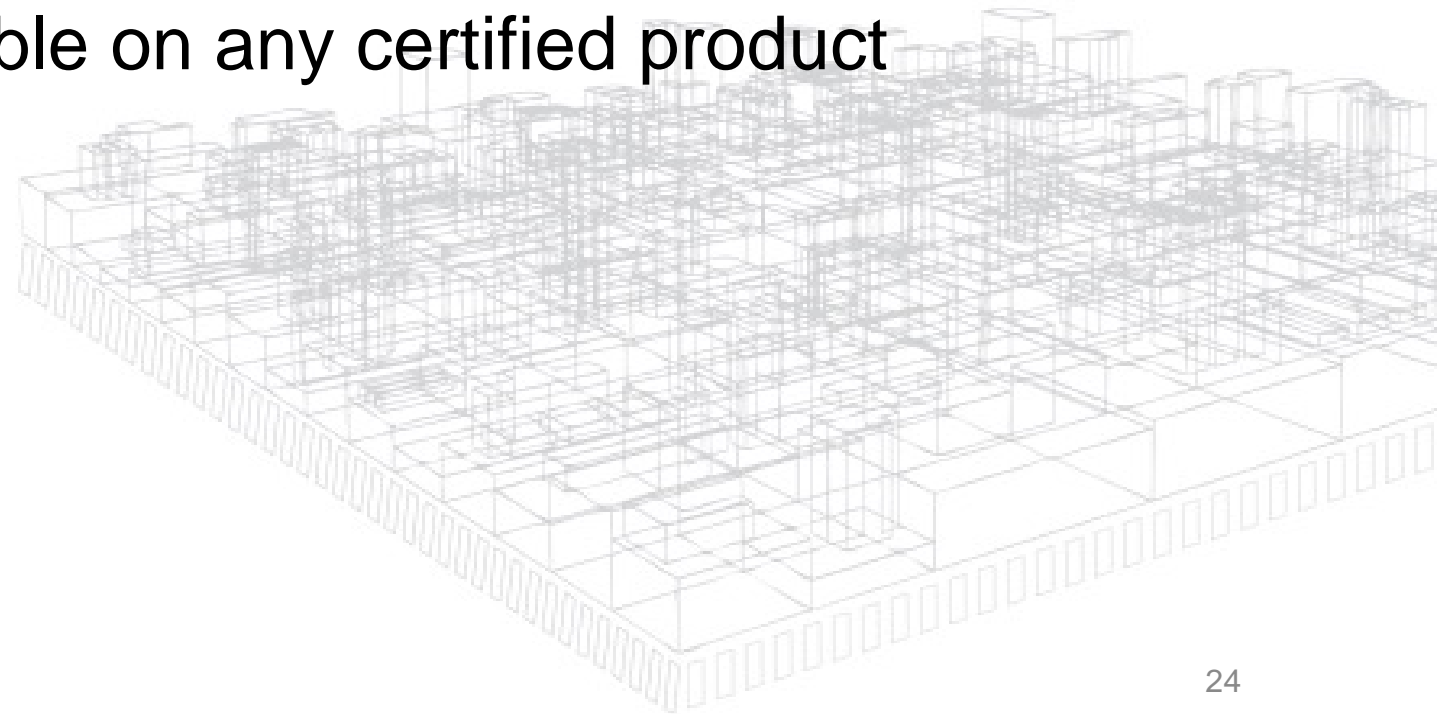
Characteristics of an AMCA-Certified Product

- Precertification check test at AMCA Lab or AMCA Independent Accredited Lab
 - Continuing assurance that accredited lab tests are accurate
- Published ratings for all certified products are made accessible at www.amca.org/certified
- AMCA database updated continuously



Characteristics of an AMCA-Certified Product

- Periodic check tests are done at either:
 - AMCA Headquarters laboratory
 - An AMCA independent accredited laboratory
- Challenge testing is available on any certified product



Characteristics of Non-Certified Product

- Manufacturer tests in any lab, including any of the following possibilities:
 - Manufacturer's AMCA-accredited lab
 - A lab **not** accredited by AMCA
 - A test rig in the **warehouse, garage or empty office**
- Manufacturer **claims** to follow a published test standard (AMCA, ISO, etc.)
- Manufacturer data **claims** to be accurate
- Catalog data **may not** be misleading



Other AMCA Programs & Benefits

- AMCA

- Provides thought leadership and technical expertise for codes, standards, & regulations
- Performs industry research and education to help improve industry practice
- Facilitates mentoring, networking, and professional development
- Partners with societies and associations to enhance integrated engineering practice and regulation

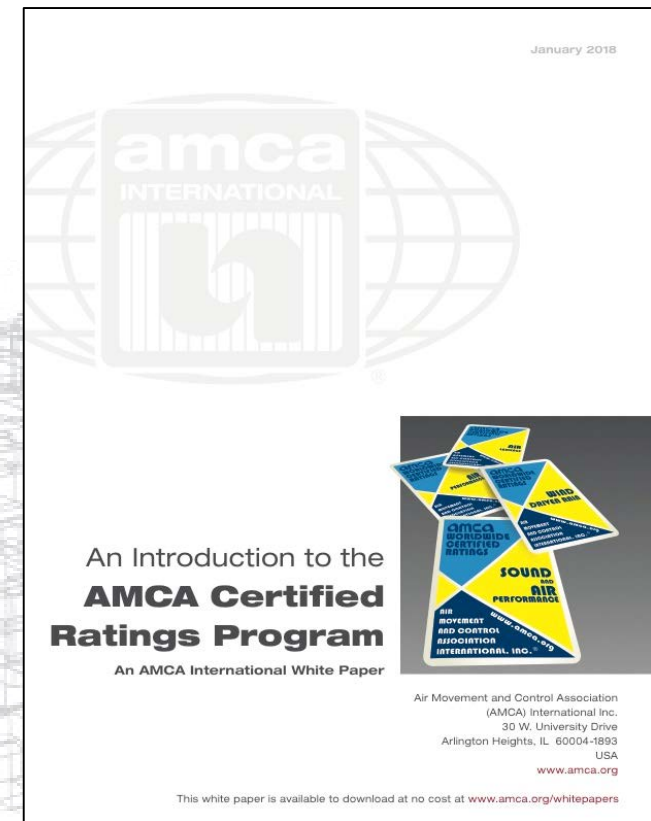


AMCA White Papers for CRP

- Available at no cost from

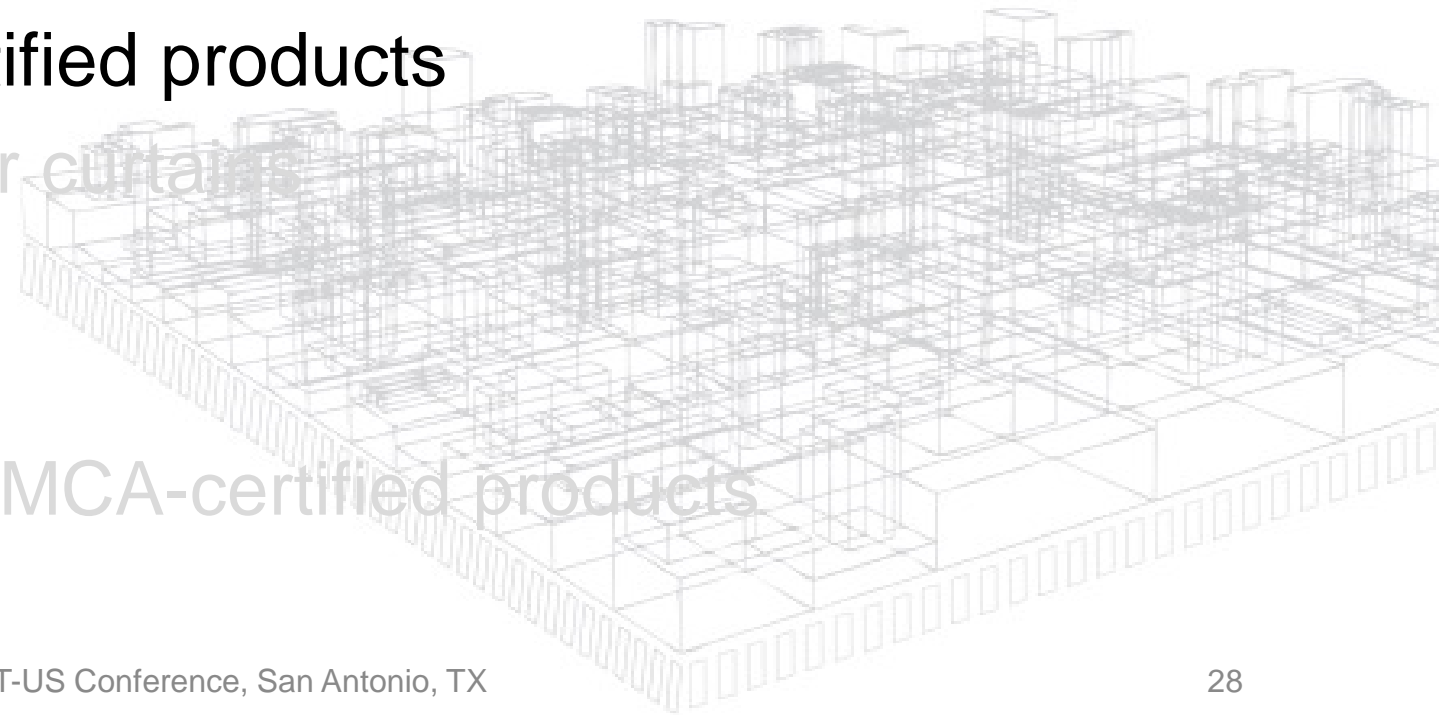
<http://www.amca.org/whitepapers>

- An Introduction to the AMCA Certified Ratings Program
 - Details which products have which certifications,
 - Describes AMCA CRP Seals
 - Identifies CRP Publication
 - Describes AMCA Test Standards
 - Matches Products to Seals, Publications, Test Standards



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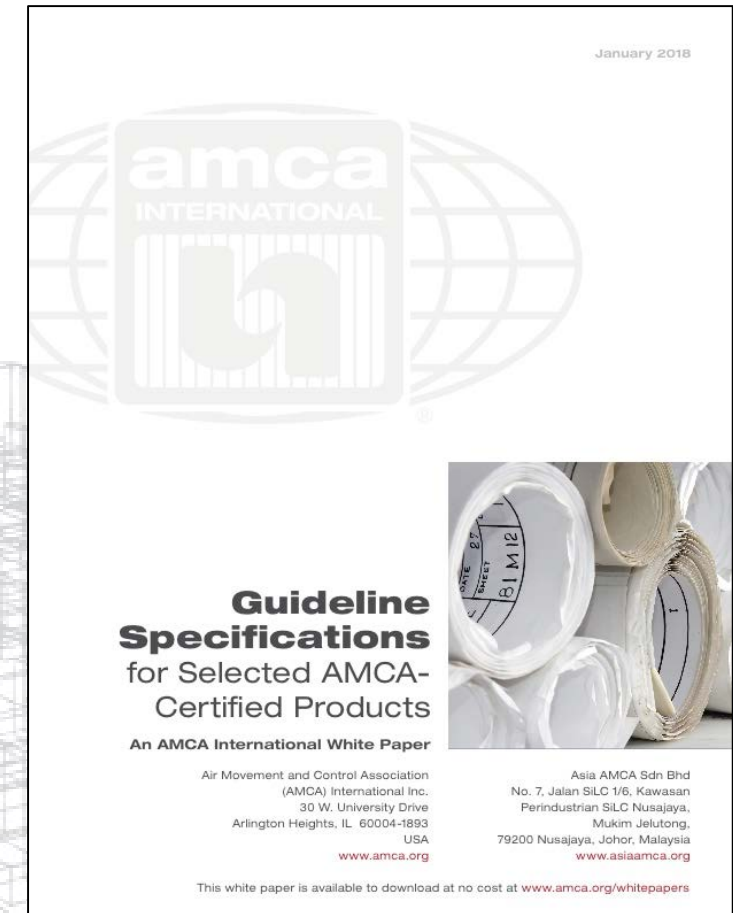


AMCA White Papers for CRP

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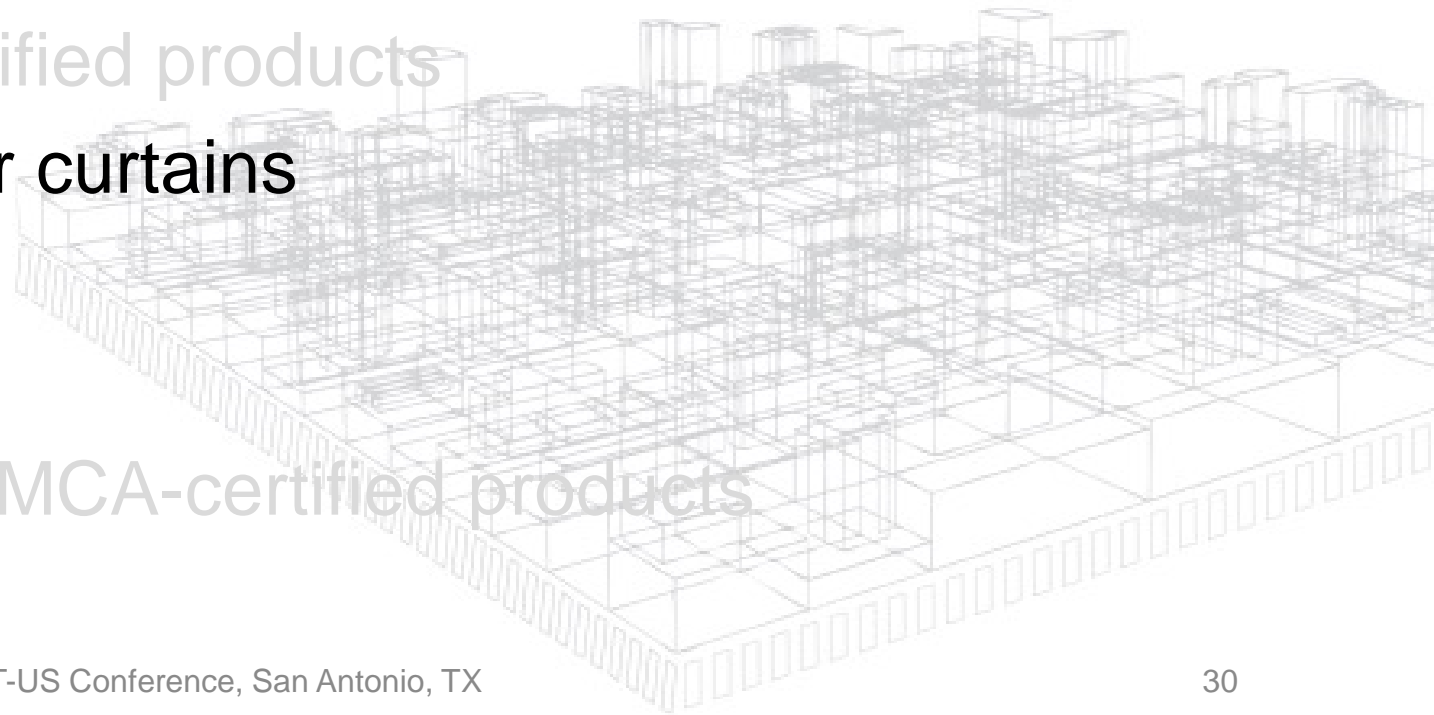
<http://www.amca.org/whitepapers>

- **Guideline Specifications for Selected AMCA-Certified Products**
- **Provides "copy / paste" guideline specifications to put into engineering and construction documents**
- **Fans, dampers, louvers, air curtains**



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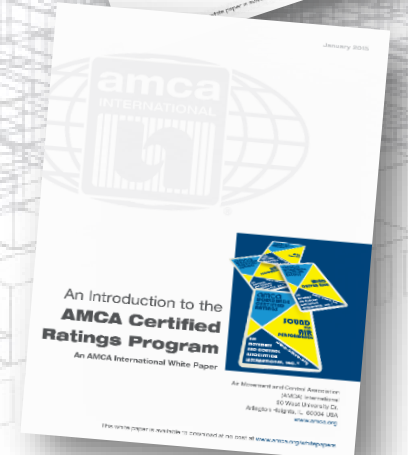
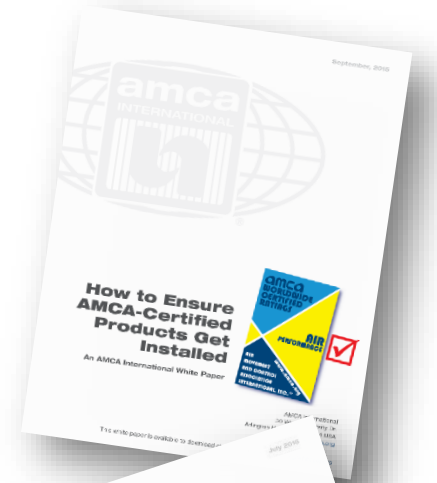


How to Specify... A Generic Guide Specification

- Add this language in your office and project specifications:

***(Product)** shall be tested in accordance with **(AMCA test standard)** and licensed to bear the AMCA Certified Ratings Program seal for **(license type/s)** in accordance with AMCA Publication **(Number)**.*

AMCA white paper library has three publications on AMCA Certified Ratings Program that helps you fill in the red text. www.amca.org/whitepapers



AMCA CRP Publications

- In specs, match publication to the product
- Available at no cost from www.amca.org/store
 - **AMCA 11:** Overarching CRP program definitions and use of the AMCA CRP seal
 - **AMCA 211:** Fans & Air Curtains – air performance
 - **AMCA 311:** Fans & Air Curtains – sound performance
 - **AMCA 511:** Dampers and Louvers
 - **AMCA 611:** Airflow Measurement Stations
 - **AMCA 1011:** Acoustical Duct Silencers

White Paper: An Introduction to the AMCA Certified Ratings Program

- **Table 1: Entry for Dampers**

<ul style="list-style-type: none">• Dampers		<ul style="list-style-type: none">• AMCA Publication 511, <i>Certified Ratings Program—Product Rating Manual for Air Control Devices</i>	<ul style="list-style-type: none">• ANSI/AMCA Standard 500-D, <i>Laboratory Methods of Testing Dampers for Rating</i>
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How to Specify...

CRP for Many Types of Fans

Fans shall be tested in accordance with **ANSI/AMCA Standard 210-2016** and licensed to bear the AMCA Certified Ratings Program seal for **air performance (efficiency) (sound)** in accordance with **AMCA Publication 211-2016**.

(plus)

The fans shall be tested in accordance with **ANSI/AMCA Standard 300**; licensed to bear the AMCA Certified Ratings Program seal for **sound performance** in accordance with **AMCA Publication 311**; and shall comply with **ANSI/AMCA Standard 301** for calculating fan sound ratings from laboratory test data.

How to Specify... CRP for Air Curtains

Air Curtains shall be tested in accordance with **ANSI/AMCA Standard 220** and licensed to bear the AMCA Certified Ratings Program seal for **air performance (efficiency) (sound)** in accordance with **AMCA Publication 211-2016**.

(plus)

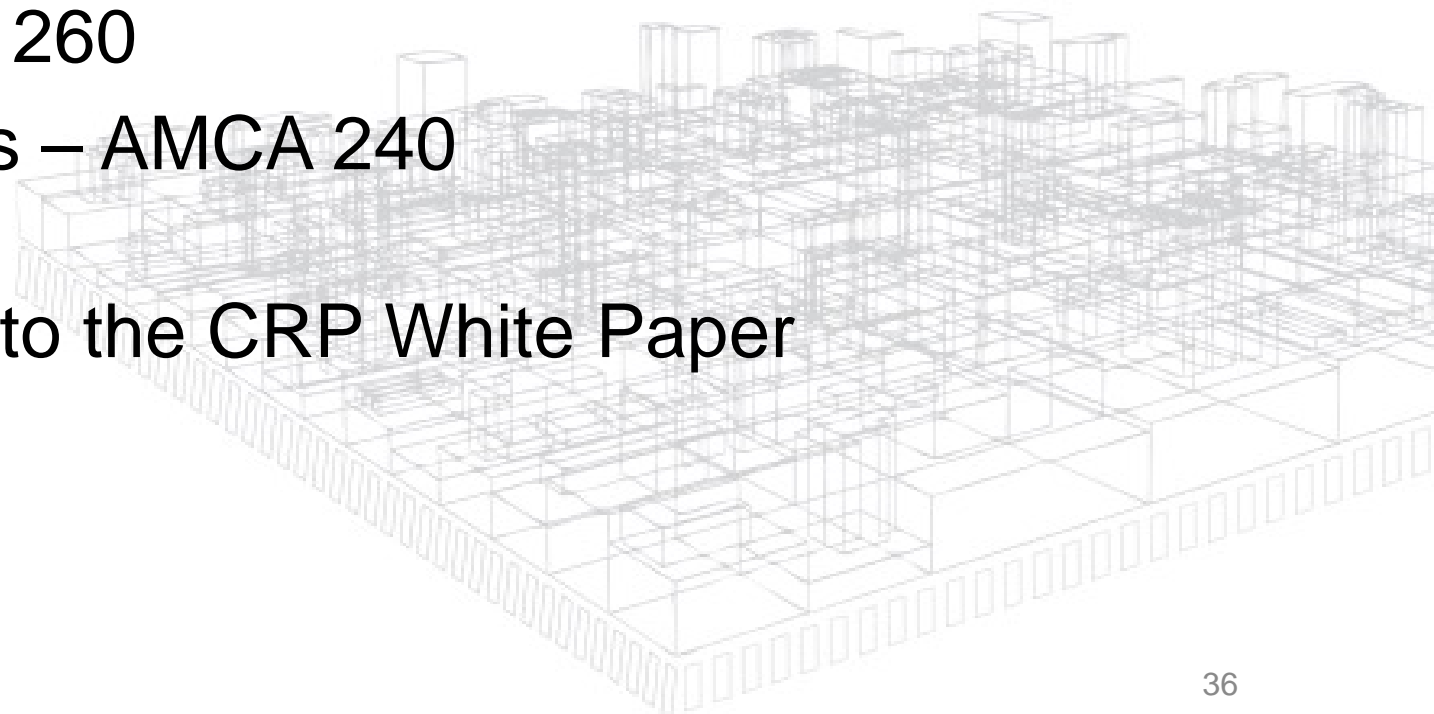
The air curtains shall be tested in accordance with **ANSI/AMCA Standard 300**; licensed to bear the AMCA Certified Ratings Program seal for **sound performance** in accordance with **AMCA Publication 311**.



How to Specify...

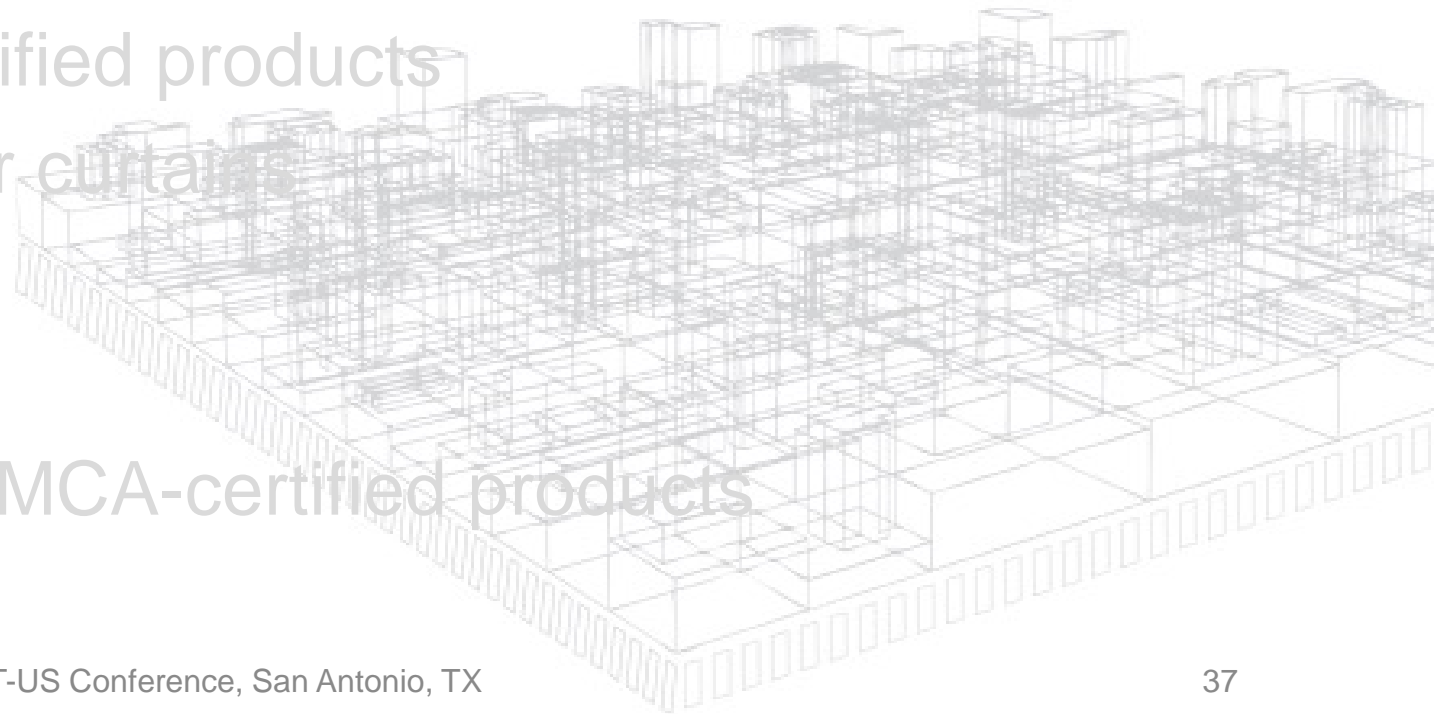
CRP for Many Types of Fans

- These types of fans have separate test procedures:
- Circulator Fans – AMCA 230
- Induced Flow Fans – AMCA 260
- Positive Pressure Ventilators – AMCA 240
- See Table 1 in “Introduction to the CRP White Paper for specific information



Agenda

- About AMCA International
- About AMCA International laboratories
- About the AMCA Certified Ratings Program
- How to Specify AMCA-certified products
- How to specify fans and air curtains
- **How to specify dampers**
- How to specify louvers
- How to enforce usage of AMCA-certified products



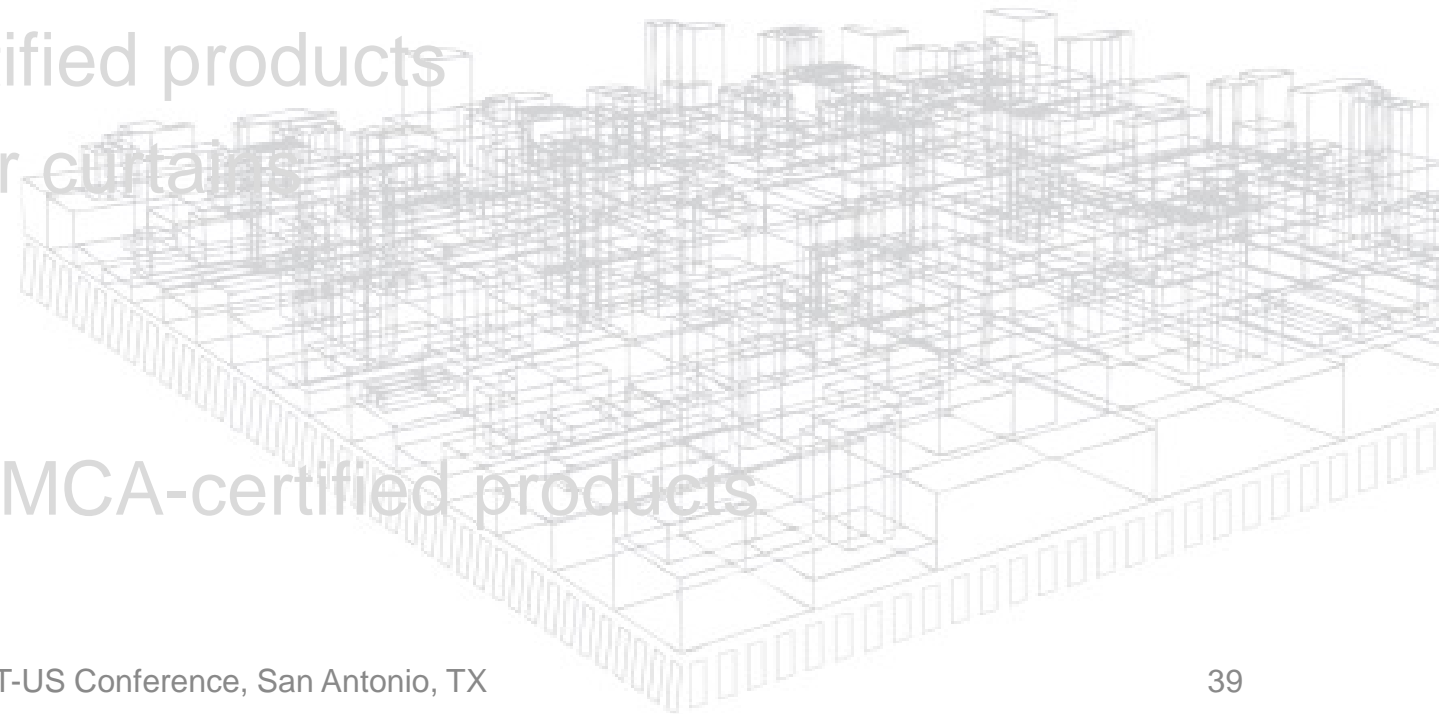
Specifying Dampers

Dampers shall be certified to bear the AMCA Certified Ratings Program seal for air performance, air leakage, and efficiency (as applicable) in accordance with AMCA Publication 511. The dampers shall be tested according to ANSI/AMCA Standard 500-D.



Agenda

- About AMCA International
- About AMCA International laboratories
- About the AMCA Certified Ratings Program
- How to Specify AMCA-certified products
- How to specify fans and air curtains
- How to specify dampers
- **How to specify louvers**
- How to enforce usage of AMCA-certified products



Specifying Louvers

“Louvers shall be certified to bear the AMCA Certified Ratings Program seal for air performance, wind-driven rain, wind-driven sand, and water penetration (as applicable) in accordance with AMCA Publication 511. The louvers shall be tested according to ANSI/AMCA Standard 500-L.”



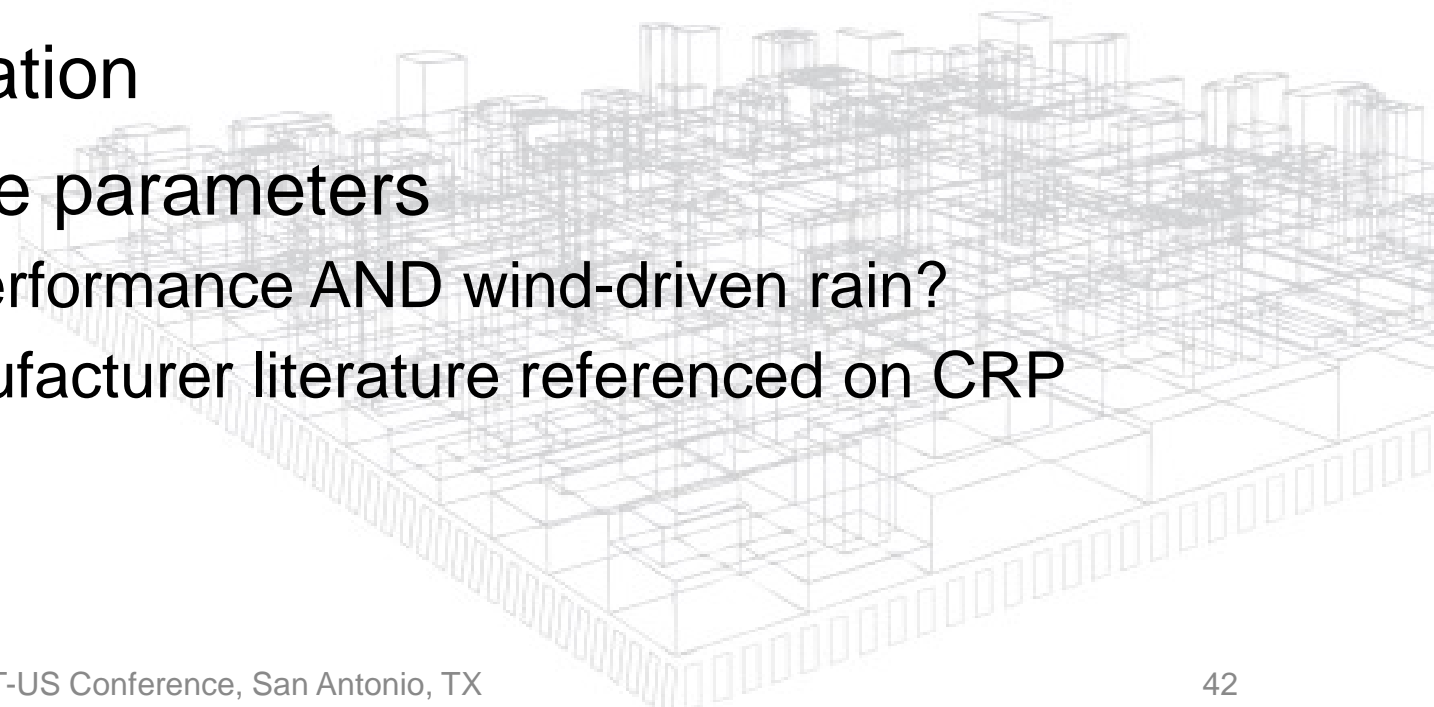
Agenda

- About AMCA International
- About AMCA International laboratories
- About the AMCA Certified Ratings Program
- How to Specify AMCA-certified products
- How to specify fans and air curtains
- How to specify dampers
- How to specify louvers
- **How to enforce usage of AMCA-certified products**



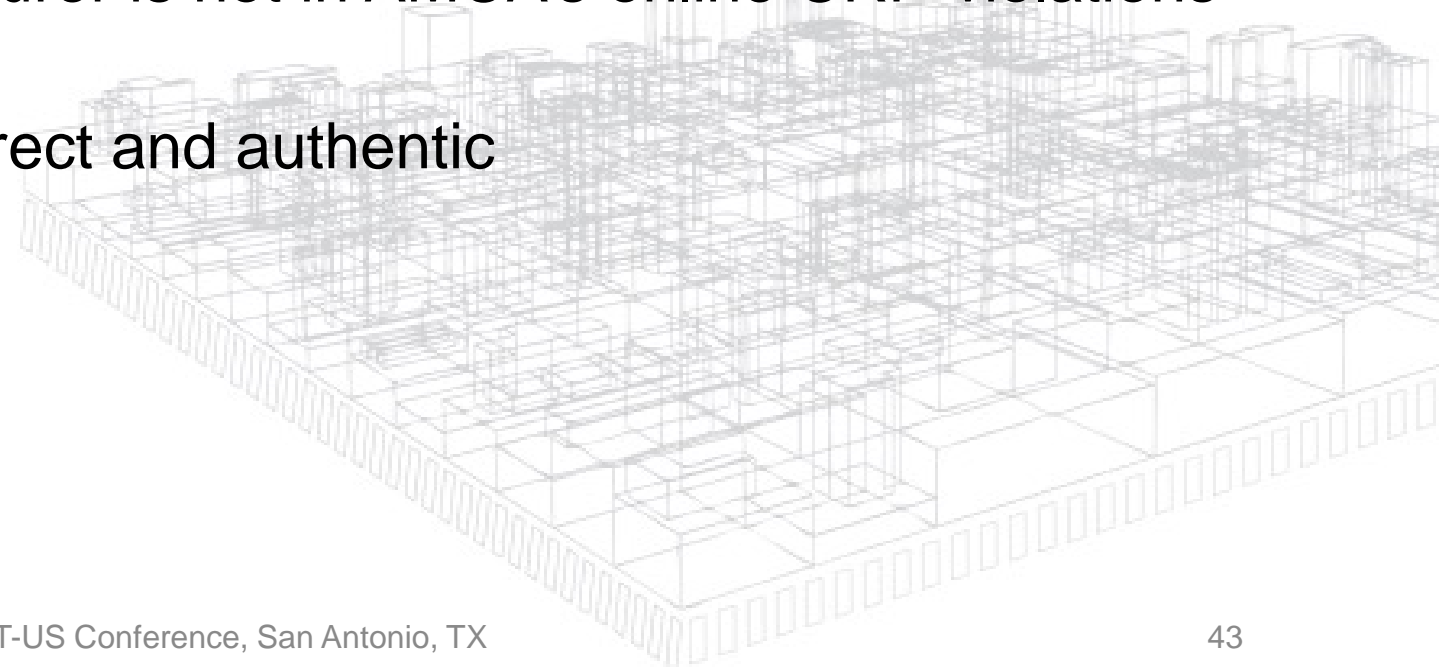
Specification Enforcement of Proffered Products

- Verify product is of a type AMCA certifies
- Find product in online AMCA CRP database
 - www.amca.org/certified
- Match design and specification
- Verify certified-performance parameters
 - Is product certified for air performance AND wind-driven rain?
 - View AMCA-approved manufacturer literature referenced on CRP database



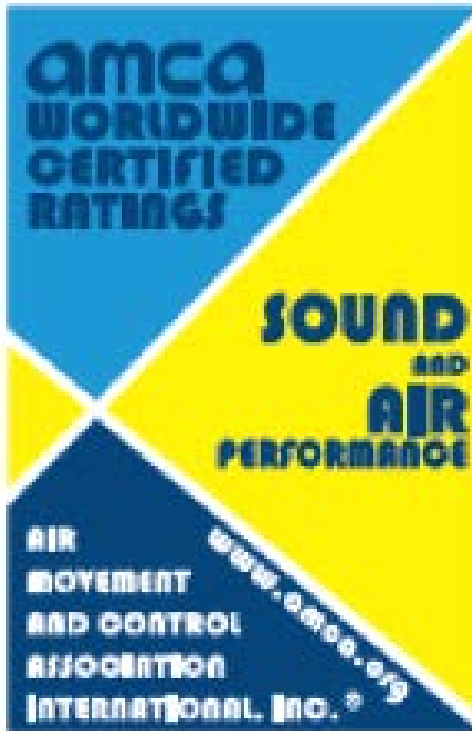
Specification Enforcement of Proffered Products

- Verify the authenticity of certification
 - Compare the actual product to the product in specification
 - Verify the product is in AMCA's online certified-products database
 - Verify the product/manufacturer is not in AMCA's online CRP-violations database
 - Verify the AMCA seal is correct and authentic

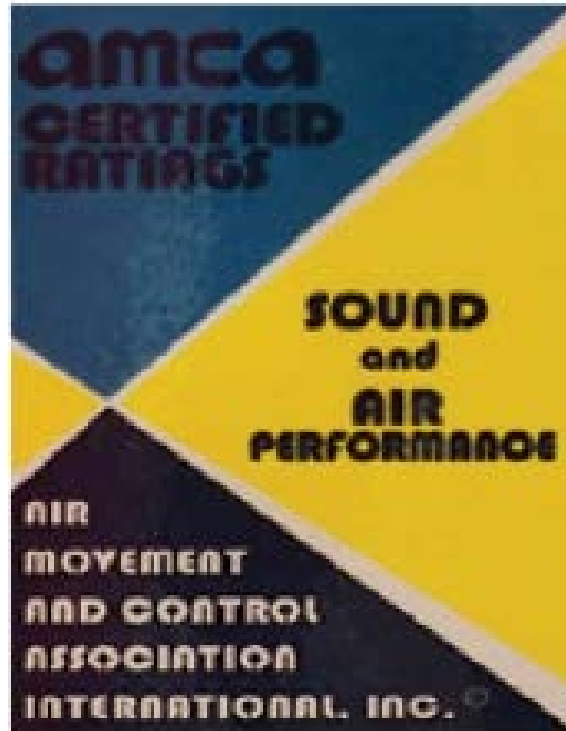


Authenticity of CRP Seals

Authentic AMCA Seal



Counterfeit Seal



The seal on the right is too wide, and the text alignment and colors are incorrect.

Authentic AMCA Seal



Counterfeit Seal



The seal on the right should say "water penetration." Also, its design, width, text alignment, and colors are incorrect.



Authenticity of CRP Seals

Authentic AMCA Seal



Counterfeit Seal



Authentic AMCA Seal



Counterfeit Seal



The fonts, text alignment, and colors of the seal on the right are incorrect. Also, elements are missing.

Seal on right has wrong association and is in a foreign language

Calls to Action

- **Specify AMCA-Certified** Products where possible
- Update “office specs” with AMCA specification language
- Update Office Library with AMCA CRP Publications and Standards
- Schedule AMCA Lunch-and-Learn at YOUR office
 - Contact Josh Parent – jparent@amca.org



This guy...

Resources

- AMCA : www.amca.org
- AMCA Certification Info and Database: www.amca.org/certified
- AMCA White Papers: www.amca.org/whitepapers
- AMCA Standards and Publications: www.amca.org/store
 - AMCA CRP publications (11, 211, 311, etc. are free)
 - AMCA Standards (210, 500, etc.) cost \$90; members 50% discount

Questions?

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