

OPERATIONS MANUAL

CENTRAL STATION AIR-HANDLING UNIT CASING PERFORMANCE CERTIFICATION PROGRAM



AHRI AHUC OM – JANUARY 2018

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PREFACE

The following manual outlines the procedures and policies of the Performance Certification Program for Air-handling Unit Casing (AHUC) operated by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). This manual is to be used in conjunction with the AHRI General Operations Manual (GOM) for AHRI Certification Programs. Where the AHRI GOM and this product-specific manual differ, this product-specific operations manual shall prevail.

The revision of this manual supersedes all previous revisions. The current edition of this manual, as well as the AHRI GOM, can be accessed through the AHRI website, www.ahrinet.org.

The AHUC Certification Program by AHRI provides for independent verification of the Air-handling Unit Casing Certification Program manufacturers' stated equipment performance. Safety criteria are not within the scope of this program.

Participation in the program is voluntary. Any manufacturer, regardless of AHRI membership, may obtain approval of Program Ratings and use of the AHRI AHUC Certification Mark hereinafter referred to as the "Mark". The Mark is the Participant's public representation that the ratings of randomly selected samples have been verified by an independent laboratory in accordance with test procedures prescribed by this operations manual. A Certification Agreement is executed between the manufacturer and AHRI specifying the conditions under which such Ratings and the Mark may be used. No manufacturer has the right to use Program Ratings or to state that their products have been tested in conformance with the procedures outlined in this Rating Procedure unless and until they have received written authority from AHRI to use the Mark as applied to the specific approved Program Ratings.

This Operations Manual has been prepared to assure that administration of the program is carried out in a uniform manner. It is an amplification of the Certification Agreement signed by licensees and AHRI. General information, procedural details, and copies of forms are included in this Operations Manual. Provisions of the Operations Manual may be amended as provided in the Certification Agreement.

This certification program complies with requirements of the ISO/IEC Standard 17065:2012, *General Requirements for Bodies Operating Product Certification Systems*.

Note:

This manual supersedes Central Station Air-handling Unit Casing Operations Manual January 2017

CERTIFICATION OPERATIONS MANUAL FOR
AIR-HANDLING UNIT CASING CERTIFICATION PROGRAM

TABLE OF CONTENTS

SECTION		PAGE
1	Program Overview	
1.1	Applicable Rating Standard	1
1.2	Definitions	1
1.3	Program Scope	2
1.3.1	Program Scope Exclusion.....	2
1.4	Intended Market	2
1.5	Basic Model Groups (BMGs)	2
1.5.1	Optional BMG Subdivision	2
1.6	Certify-All Policy	3
2	Qualification Process	
2.1	Original Equipment Manufacturer (OEM) Applicants	3
STEP 2.1.1	Certification Application Package	3
STEP 2.1.2	Processing Application Package	3
STEP 2.1.2.1	Performance Certification Agreement for Original Equipment Manufacturer (OEM Agreement)	3
STEP 2.1.2.2	Participation and Licensing Fee Invoice	3
STEP 2.1.3	Selection and Acquisition of Test Samples.....	3
STEP 2.1.3.1	Selection Rating Software Approval.....	3
STEP 2.1.3.2	Number of Qualification Tests	4
STEP 2.1.3.3	Acquisition of Qualification Test Samples/Selection Criteria	4
STEP 2.1.4	Qualification Testing	4
STEP 2.1.4.1	Successful Completion of All Qualification Tests	4
STEP 2.1.4.2	First Sample Qualification Test Failure	4
STEP 2.1.4.3	Second Sample Qualification Test Failure.....	4
STEP 2.1.5	Welcome to the Program	4
2.2	Private Brand Marketer (PBM) Applicants	4
STEP 2.2.1	Certification Application Package	4
STEP 2.2.2	Processing Application Package	4
STEP 2.2.2.1	Performance Certification Agreement for Private Brand Marketer (PBM Agreement)	4
STEP 2.2.2.2	OEM Agreement on Behalf of the PBM Applicant	5
STEP 2.2.2.3	Licensing Fee Invoice	5
STEP 2.2.3	Welcome to the Program	5
3	Equipment Selection and Testing	
3.1	Annual Testing Requirement	5
3.2	Location of Tests.....	5
3.3	Selection of Test Samples	5
3.4	Leakage Test Method	5
	Sample Acquisition Timeframe	5
3.6	Selection Rating Software and Catalog	5
3.6.1	Requesting Approval of Rating Methods	5
3.6.1.1	Installation of Selection Rating Software	6
3.6.2.	Required information for Selection Rating Catalog.....	6

3.6.3	Initial Approval of Selection Rating Software through Published Rating Comparison	6
3.6.3.1	Initial Approval of Selection Catalog	7
3.6.4	Updates to Previously Approved Software	7
3.6.4.1	Updates to Previously Approved Selection Catalog	7
3.6.5	Statements Regarding Certification	7
3.7	Certified Data	7
3.8	Test Failures	9
3.8.1	Deflection Rating Class Failure.....	9
3.8.2	Options Following 1 st Sample Failure	9
3.8.3	Options Following 2 nd Sample Failure	9
4	Challenge Tests.....	9
5	AHRI Directory of Certified Product Performance	
5.1	Publication of Ratings in Certified Directory	9
5.2	Data Forms	10
6	Assessment and Payment of Certification Fees.....	10
6.1	Additional Deflection Tests	10
7	Issuance of Violations and/or Termination	10
8	Program Hierarchy, Complaints, and the Appeals Process	10
9	Proper Use of the AHRI Certification Mark and Claims to Certification	10
Tables		
Table 1	Class - Casing Deflection Rating	8
Table 2	Class - Casing Air Leakage Rating.....	8
Table 3	Class - Casing Thermal Transmittance Rating (with and without leakage).....	8
Table 4	Casing Thermal Bridging Rating Class.....	8
Appendix		
Appendix A.	Standard Operating Procedure for Sample Inspection	11

1. Program Overview

1.1 Applicable Rating Standard. It is mandatory for program Participants to comply with the provisions of the latest edition of ANSI/AHRI 1350, *Mechanical Performance Rating of Central Station Air-handling Unit Casings* (Standard). A copy of the Standard is available for download from the AHRI website, www.ahrinet.org.

1.2 Definitions. All terms in this document shall follow the AHRI General Operations Manual and the Standard definitions unless otherwise defined in this section.

1.2.1 Central Station Air-handling Unit (CSAHU). A factory-made encased assembly consisting of a fan or fans in parallel which may also include other necessary equipment to perform one or more of the functions of circulating, cleaning, heating, cooling, humidifying, dehumidifying and mixing of air. It shall not contain a source of mechanical cooling.

1.2.1.1 Multi-Tunnel CSAHU. A type of horizontal CSAHU with two or more adjacent and separate air paths.

1.2.1.2 Single Tunnel CSAHU. A type of horizontal or vertical CSAHU with a single air path.

1.2.2 Central Station Air-handling Unit (CSAHU) Casing. The enclosure which houses the fans, coils, filters, and other components of the CSAHU. It is generally made of metal and lined, where necessary, with material for thermal insulation and/or acoustic attenuation. It is the portion of CSAHU containing the air that is being conditioned, is exposed to the fan pressure, and separates the conditioned air from the surrounding air.

1.2.2.1 Casing Design Pressure. The maximum operating pressure, as specified by the CSAHU manufacturer. Casing Air Leakage Rating Class is determined from test results performed at the Casing Design Pressure.

1.2.2.2 Rating Differential Static Pressure. The differential static pressure required for determining Deflection Class, in H₂O. The Rating Differential Static Pressure is specified in Table 1.

1.2.3 Access Point. Any surface of the CSAHU that is designed to be opened and/or removed for the purpose of access to internal components for normal maintenance.

1.2.4 Equipment Line. A family of units of common basic design (including similar performance, features, and options), consisting of a set of models, and a progression of sizes. The Equipment Line utilizes same marketing/product name.

1.2.5 Frame. A rigid structure joined so as to surround and/or encompass Panels and Access Points, and generally used as a major support.

1.2.6 Panel. A distinct component of a CSAHU which creates the air tunnel(s). Panels may be structural or non-structural. If used in conjunction with a Frame, the Panels attach to the Frame (and possibly to other Panels) to form the air tunnel(s). A panel may be either Single Wall or Double Wall construction.

1.2.6.1 Single Wall. A CSAHU which has no solid, interior sheet metal, plastic, and/or composite surface. In these units, the insulation is not encased by sheet metal, plastic, and/or composite surfaces.

1.2.6.2 Double Wall. A CSAHU which has interior and exterior sheet metal, plastic, and/or composite surfaces. Perforated sheet metal is included in this category.

1.2.7 Shipping Splits. Allows the complete CSAHU to be broken into smaller pieces for shipment and to be assembled at these splits at the time of installation.

1.2.8 Seam Construction. A method of joining and sealing separate, adjacent, and interconnecting CSAHU casing panels and frames.

1.3 Program Scope. This program applies to Production Models of Central Station Air-handling Unit Casings, as defined in Section 1.2, for which published ratings are available.

1.3.1 Program Scope Exclusion. This certification program does not include:

- Units with exterior air tunnel cross-sectional area greater than 150 ft²

1.4 Intended Market. The Intended Market for this Certification Program includes all products defined in Section 1.3 that are sold for use in the U.S. (including U.S. Territories) and Canada.

1.5 Basic Model Groups (BMGs). A Participant's listing shall be grouped by BMG. At a minimum, a BMG is a regular range of units having the construction, similar geometry parameters, and no more than two (2) classes in any singular rating class (i.e. CD₁ and CD₂). The minimum BMG divisions are defined below:

- Similar wall construction
 - Single Wall
 - Frame and/or Panel construction variations (i.e. 2' center to center distances)
 - Double Wall
 - Frame and/or Panel construction variations
- Similar insulation thickness and type (i.e. 2" fiberglass or 4" foam)
- Similar assembly method (i.e. similar Seam Construction, seam treatments, bracing, caulking, gasketing, etc.)

1.5.1 Optional BMG Subdivision. Manufacturers have the option to increase the number of BMGs to separate groupings of units having the same mounting arrangement or other engineering considerations, for example:

- Casing Structure (i.e. High Pressure);
- Individual rating classes;
- Casing Size (i.e. Small);
- Application Type
 - Indoor; or
 - Outdoor;
- Casing Coating
 - Coated or;
 - Non-coated
- Stacked vs. non-stacked unit construction;
- Access points
 - Quantity; or
 - Type;
- Quantity of Shipping Splits

If the BMG grouping described in Section 1.5 is not increased, units of different unit types, mounting arrangements, and different airflows shall be units within the same BMG.

1.6 Certify-All Policy. This program complies with the AHRI GOM Certify-All Policy for products within the program scope with the following allowances:

- All Participants shall comply with the Certify-All Policy no later than June 1, 2018; and
- Participants shall have the option to exclude Thermal Transmittance with Leakage, Thermal Transmittance without Leakage, and Thermal Bridging from their all their Equipment Lines encompassed by the program scope.

2. Qualification Process

2.1 Original Equipment Manufacturer (OEM) Applicants. With the additions noted below, the OEM qualification process shall proceed according to the AHRI GOM, Section 4.

STEP 2.1.1 Certification Application Package. In addition to the Application for AHRI Certification, Annual Sales Volume Form, and product-specific ratings and data, noted in the AHRI GOM, Section 4, STEP 4.1, Applicants shall submit the following documentation to AHRI:

- One (1) test report for at least 40% of all BMGs;
 - The Applicant has the option of providing test reports for all their BMGs.
 - The data submission shall denote whether it is verified by test or is a theoretical calculation.
 - For BMGs which do not have a test report submitted, the Participant shall submit theoretical calculations which include all engineering assumptions (i.e. correlations to other Basic Model Groups' test reports). These theoretical calculations must include all data which would be derived if the sample were tested in accordance with AHRI Standard 1350.
- Document(s) which shows location of caulking, gaskets, material gauge, and other construction information, as spelled out in Appendix A. Document(s) should be available which shows all BMG's information; and
- Copy of Applicant's Selection Rating Software (refer to Section 3.6) or Applicant's Selection Catalog.

Electronic forms shall be obtained from AHRI (available on www.ahrinet.org under the Product-Specific Certification Program).

STEP 2.1.2 Processing Application Package.

STEP 2.1.2.1 Performance Certification Agreement for Original Equipment Manufacturer (OEM Agreement). No further action required beyond that listed in Section 4, STEP 4.2 of the AHRI GOM.

STEP 2.1.2.2 Participation and Licensing Fee Invoice. Payment of the Participation and Licensing Fee is due within 30 calendar days of the invoice issue date. Testing shall not be conducted until the invoice is paid in full. No further action required beyond that listed in Section 4, STEP 4.2 of the AHRI GOM.

STEP 2.1.3 Selection and Acquisition of Test Samples.

STEP 2.1.3.1 Selection Rating Software Approval. AHRI shall provide the Applicant with a login/password to a personalized Virtual Machine (VM) to install their Selection Rating Software. Once the Applicant notifies AHRI that the Selection Rating Software has been successfully installed, AHRI shall grant approval of the Selection Rating Software.

STEP 2.1.3.2 Number of Qualification Tests. 20% of an Applicant's BMGs shall be tested, with a minimum of two (2) models. Fractional numbers shall be rounded to the nearest whole number using traditional rounding methods. (Example: 20% of 21 BMGs is 4.2 so the Applicant would have 4 tests.) Test samples for the Qualification Testing shall be limited to only CSAHU's with a fan and a coil section.

STEP 2.1.3.3 Acquisition of Qualification Test Samples/Selection Criteria. The Applicant shall deliver the selected sample(s) to the Laboratory within 60 calendar days of the Selection Letter. Samples shall be acquired in accordance with Section 3 of this manual.

STEP 2.1.4 Qualification Testing. AHRI shall supply the Independent Third-party Laboratory Contracted by AHRI (Laboratory) with the Published Ratings. The Laboratory shall conduct the testing of the samples in accordance with the Standard, against the Published Ratings. All Qualification samples shall have a Sample Inspection performed on them, as per Appendix A.

STEP 2.1.4.1 Successful Completion of All Qualification Tests. If all qualification tests pass, proceed to STEP 2.1.5.

STEP 2.1.4.2 First Sample Qualification Test Failure. Refer to Section 3.7 for details regarding the first sample qualification failure options, with the following addition:

- Terminate the application process (in lieu of obsolete).

STEP 2.1.4.3 Second Sample Qualification Test Failure. Refer to Section 3.7 for details regarding the second sample qualification failure options, with the following addition:

- Terminate the application process (in lieu of obsolete).

STEP 2.1.5 Welcome to the Program. No further action required beyond that listed in Section 4, STEP 4.5 of the AHRI GOM.

2.2 Private Brand Marketer (PBM) Applicants. With the additions noted below, the PBM qualification process shall proceed according to the AHRI GOM, Section 5.

PBM Applicants are not required to undergo qualification testing. PBM product certification is contingent upon the certification of the associated OEM product. PBM product certification is contingent upon the certification of the associated OEM product. PBM software must directly correlate to OEM software. If the software has variations, the PBM must register and test as an OEM

STEP 2.2.1 Certification Application Package. In addition to the Application for AHRI Certification and product-specific ratings and data noted in the AHRI GOM, Section 5, STEP 5.1, Applicants shall submit the following documentation to AHRI:

- Copy of Applicant's Selection Rating Software (refer to Section 3.6)

STEP 2.2.2 Processing Application Package.

STEP 2.2.2.1 Performance Certification Agreement for Private Brand Marketer (PBM Agreement). No further action required beyond that listed in Section 5, STEP 5.2.1 of the AHRI GOM.

STEP 2.2.2.2 OEM Agreement on Behalf of the PBM Applicant. No further action required beyond that listed in Section 5, STEP 5.2.2 of the AHRI GOM.

STEP 2.2.2.3 Licensing Fee Invoice. Payment of the Licensing Fee is due within 30 calendar days of the invoice issue date.

STEP 2.2.3 Welcome to the Program. No further action required beyond that listed in Section 5, STEP 5.3 of the AHRI GOM.

3. Equipment Selection and Testing

3.1 Annual Testing Requirement. 10% of a Participant's BMGs shall be tested annually, with a minimum of two (2) models. Fractional numbers shall be rounded to the nearest whole number using traditional rounding methods. (Example: 10% of 21 BMGs is 2.1 so the Participant would have 2 tests.) Test samples for the Annual Testing shall be limited to only CSAHU's with a fan and a coil section. The test sample shall not include non-casing options such as belt guards, control panels, etc.

3.2 Location of Tests. Testing shall be performed at the Laboratory and the sample shall be installed in the test facility in accordance with the Participant's published installation instructions in either printed or electronic format.

3.3 Selection of Test Samples. AHRI shall utilize the Participant's AHRI approved Selection Rating Software (or approved Selection Catalog, if no Software exists) to perform a Build-To-Specifications Test Sample Selection. For Positive and Negative type units, AHRI shall specify whether the unit will be tested under positive or negative pressure. The Participant shall have five (5) calendar days from the date of the selection notice to notify AHRI personnel, in writing, if the selected model will be unavailable, is not a viable product, or if any adjustments need to be made prior to testing. 25% of a Participant's Annual Testing samples shall have a Sample Inspection, as per Appendix A, with at least one sample verified every two (2) testing years. Additional Sample Inspections may be performed at the discretion of AHRI.

All certified ratings for each Participant shall be verified on a single sample.

3.4 Leakage Test Method. Pressure Change Wall units shall be tested according to Method 1, as defined in Section C6 of the Standard.

3.5 Sample Acquisition and Timeframe. The Participant shall deliver the selected sample(s) to the Laboratory within 60 calendar days of the Selection Letter.

- A Participant may choose to provide blank-off panels for their sample and shall indicate that they will do so at the time of selection; and
- Selected samples shall be accompanied by the Participant's published installation instructions in printed or electronic format.

3.6 Selection Rating Software and Catalog

3.6.1 Requesting Approval of Rating Methods. A Participant shall request approval of its Selection Rating Software by submitting all of the following to AHRI:

- Selection Rating Software shall be either personal computer (PC) based, run on MS Windows® platform, or web-based software and allow for selection of any certified product at any application rating condition per the latest edition of the Standard;
- Provide outputs for:
 - Brand Name of Model;

- Name of Equipment Line;
- Model Number(s) or Designation(s);
- Certified Ratings;
- Submittal information that documents, at a minimum, the selected unit's dimensions, shipping splits, access points, and weight;
- Version number or other revision coding;
- Proper claims to AHRI Certification (Refer to Section 3.6.5);
- All necessary passwords to access Selection Rating Software and updates;
- Instructions for use of the Selection Rating Software; and
- A copy of the Participant(s) published catalog, if applicable.

The Selection Rating Software shall meet the requirements set forth in Section 9. If the Participant has more than one Selection Rating Software available to users, each program shall be verified by AHRI.

3.6.1.1 *Installation of Selection Rating Software.* AHRI shall provide the Participant with a login/password to a personalized Virtual Machine (VM) to install their Selection Rating Software. The Participant shall generate two (2) random selections to ensure successful Selection Rating Software installation and operation. Once the Participant notifies AHRI that the Selection Rating Software has been successfully installed, AHRI shall grant approval of the Selection Rating Software within five (5) business days.

3.6.2. *Required information for Selection Rating Catalog.* The Participant shall provide copies of all Selection Catalogs or other publications where AHRI certified data is included in electronic format to AHRI. If the document is available in multiple languages, the language most commonly provided to the Participant's customers shall be provided.

- The Directory shall provide a field for Participants to provide a hyperlink to the document(s); and
- If the catalog is not publicly available on the Internet, the Participant shall provide copies by email.

At a minimum the catalog shall include:

- Manufacturer Name (if different from Brand Name);
- Brand Name of Model;
- Name of Equipment Line;
- Model Number(s) or Designation(s);
- Certified Ratings;
- Version number or other revision coding;
- Proper claims to AHRI Certification (Refer to Section 3.6.5);

3.6.3 *Initial Approval of Selection Rating Software through Published Rating Comparison.* AHRI upon receiving the necessary materials shall, if applicable, utilize the Participant's Selection Rating Software to determine computer ratings for a certain set of conditions and compare them for the same conditions as those in the published catalog, if a published catalog exists. The Selection Rating Software output (printout and on-screen display) shall match the published certified ratings from the catalog, if applicable. AHRI may also request selection sheets from customers who have received bids. These selection sheets shall match the Selection Rating Software output.

The Participant shall be notified within 7 business days of receipt of Software when the Selection Rating Software has been approved for certification. Upon approval from AHRI, the Participant may release the Selection Rating Software to other users. Selection Rating Software released to

other users prior to obtaining AHRI approval shall result in a program violation. Also, the Selection Rating Software shall be approved by AHRI prior to field release.

3.6.3.1 Initial Approval of Selection Catalog. AHRI, upon receiving the necessary materials, shall review the materials for alignment with submitted data sheets.

The Participant shall be notified within 7 business days of receipt of Catalog when the Selection Catalog has been approved for certification. Upon approval from AHRI, the Participant may release the Catalog to other users. Catalog released to other users prior to obtaining AHRI approval shall result in a program violation. Also, the Catalog shall be approved by AHRI prior to field release.

3.6.4 Updates to Previously Approved Software. Per the AHRI General Operational Manual, Section 9.4.1, AHRI shall have an updated copy of any Selection Rating Software being used in the field. Any updates shall promptly be provided to AHRI via installation to the Participant's VM. Major changes to Selection Rating Software shall go through an Initial Approval as per Section 3.6.3.1. The Directory shall be locked and Participants shall not be allowed to make changes to Selection Rating Software version updates until the Participant has obtained approval from AHRI.

3.6.4.1. Updates to Previously Approved Selection Catalog. If a Participant updates a Catalog with different ratings, AHRI must review and approve the changes prior to public release.

Updates to a Catalog that do not include changes to ratings do not need to be reviewed.

3.6.5 Statements Regarding Certification. When possible, for units within the scope of the program, the Mark should be included on the Selection Rating Software outputs and in the Selection Rating Catalog for certified units in accordance with the AHRI Brand Usage Guide. All Selection Rating Software outputs from an approved Selection Rating Software and in the Selection Rating Catalog shall include one of the following statements:

3.6.5.1 For Units Within the Scope of the Program. "Certified in accordance with the AHRI Central Station Air-handling Unit Casing Certification Program, which is based on AHRI Standard 1350. Certified units may be found in the AHRI Directory at www.ahridirectory.org"

3.6.5.2 For Units Outside the Scope of the Program. "Unit is outside of the scope of AHRI Standard 1350."

3.7 Certified Data. In accordance with the Standard, the following certified ratings are verified by test:

- Casing Deflection Rating Class;
- Casing Air Leakage Class;
- Thermal Transmittance Class with Leakage;
- Thermal Transmittance Class without Leakage; and
- Thermal Bridging Class.

Table 1. Class - Casing Deflection Rating			
Deflection Class	Rating Differential Static Pressure, in. H ₂ O	Maximum Normalized Deflection, in/in of Span	Passing Result, Maximum Normalized Deflection, in/in of Span
CD ₁	10	0.0033 (1/300)	≤0.00347 (1/288)
CD ₂	8	0.0042 (1/240)	≤ 0.00441 (1/227)
CD ₃	6	0.0042 (1/240)	≤ 0.00441 (1/227)
CD ₄	4	0.0042 (1/240)	≤ 0.00441 (1/227)
CD ₅	1	≥ 0.0042 (1/240)	All test results pass

Table 2. Class - Casing Air Leakage Rating		
Leakage Class	Maximum Casing Air Leakage Rate, CL_r , cfm/100 ft ² (at $P_r = 1$ in. H ₂ O)	Passing Result, Maximum Casing Air Leakage Rate, CL_r , cfm/100 ft ² (at $P_r = 1$ in. H ₂ O)
CL ₁	1	1.05
CL ₂	2	2.10
CL ₃	3	3.15
CL ₆	6	6.30
CL ₁₂	12	12.60
CL ₂₄	24	25.20
CL ₁₀₀	100	105

Note: If a sample fails a test at CL₁₀₀, the model is not eligible for AHRI certification.

Table 3. Class - Casing Thermal Transmittance Rating (with and without leakage)				
Thermal Transmittance Class	Thermal Transmittance without Leakage (U), Btu/ft ² /°F	Passing Result, Thermal Transmittance without Leakage (U), Btu/ft ² /°F	Thermal Transmittance with Leakage (U), Btu/ft ² /°F	Passing Result, Thermal Transmittance with Leakage (U), Btu/ft ² /°F
CT ₁	$U \leq 0.14$	$U \leq 0.147$	$U \leq 0.16$	$U \leq 0.168$
CT ₂	$0.14 > U \geq 0.23$	$U \leq 0.242$	$0.16 > U \geq 0.26$	$U \leq 0.273$
CT ₃	$0.23 > U \geq 0.36$	$U \leq 0.378$	$0.26 > U \geq 0.39$	$U \leq 0.410$
CT ₄	$0.36 > U \geq 0.55$	$U \leq 0.578$	$0.39 > U \geq 0.61$	$U \leq 0.641$
CT ₅	$U > 0.55$	All test results pass	$U > 0.61$	All test results pass

Table 4. Casing Thermal Bridging Rating Class		
Thermal Bridging Class	Thermal Bridging Factor (k_b)	Passing Result, Thermal Bridging Factor (k_b)
CB ₀	$k_b \geq 0.8$	$k_b \geq 0.76$
CB ₁	$k_b \geq 0.8$	$k_b \geq 0.76$
CB ₂	$0.8 > k_b \geq 0.60$	$k_b \geq 0.57$
CB ₃	$0.60 > k_b \geq 0.40$	$k_b \geq 0.38$
CB ₄	$0.40 > k_b \geq 0.20$	$k_b \geq 0.19$
CB ₅	$k_b < 0.20$	All test results pass

3.8 Test Failures.

3.8.1 Deflection Rating Class Failure. In the event of a first or second sample failure for Casing Deflection Rating Class, the sample shall be automatically tested at the next lowest class' Rating Differential Static Pressure while the sample is still on the test stand. This testing shall continue until the sample achieves acceptable results for deflection per the tested Differential Static Pressure (Table 1) or until the test fails a CD₄ test. If a sample fails a CD₄ test and is re-rated, the unit shall be re-rated to CD₅ with no additional testing required.

3.8.2 Options Following 1st Sample Failure.

When the Participant/Applicant is notified of a first sample certified rating failure, the Participant/Applicant has seven (7) calendar days to select one of the following options:

- Re-rate all models within the failed sample's BMG to the failed test's results;
- Re-rate all models with the same class ratings within the failed sample's BMG proportionate to the failed test's results and at the manufacturer's discretion, AHRI may select additional sample(s) for test within a different rating class to preserve that class's rating;
- Test second sample of the same model (sample must be available within the timeframe and procedure allotted in Section 3.5 following notification of decision to AHRI via Manufacturer's Decision Form [MDF]); or
- Obsolete the model, which also obsoletes all models within the corresponding BMG.

3.8.3 Options Following 2nd Sample Failure. When the Participant/Applicant is notified of a second-sample certified rating failure, the Participant has seven (7) calendar days to select one of the following options:

- Re-rate all models within the failed sample's BMG to the failed test's results; or
- Obsolete the model, which also obsoletes all models within the corresponding BMG.

4. Challenge Tests

Refer to Section 10 of the AHRI GOM.

5. AHRI Directory of Certified Product Performance

All certified products shall be listed in the Directory, www.ahridirectory.org. Certification shall not be implied nor claimed for any product not listed in the Directory. Except as noted below, the Participant shall follow the steps outlined in Section 11 of the AHRI GOM.

5.1 Publication of Ratings in Certified Directory. The following information pertaining to each model certified shall be published in the Directory:

- AHRI Certified Reference Number;
- Name of Manufacturer;
- Model Status;
- Brand Name of Model;
- Equipment Line Name;
- Model Number(s) or Designation(s);

- Wall construction;
- Insulation Type;
- Insulation Thickness;
- Assembly Method;
- Optional BMG Division;
- Minimum exterior air tunnel cross-sectional area;
- Maximum exterior air tunnel cross-sectional area;
- Type of Unit (Positive Only, Negative Only, or Positive and Negative)
- Casing Deflection Rating Class (Positive);
- Casing Deflection Rating Class (Negative);
- Casing Design Pressure (Positive);
- Casing Design Pressure (Negative);
- Casing Air Leakage Class (Positive);
- Casing Air Leakage Class (Negative);
- Thermal Transmittance Class with Leakage (if applicable);
- Thermal Transmittance Class without Leakage (if applicable);
- Thermal Bridging Class (if applicable);
- Software Name (if applicable);
- Software Version (if applicable);
- Catalog Name (if applicable); and
- Catalog Version (if applicable);

5.2 Data Forms. Each Participant shall list its products by BMG. OEM and PBM Participants shall submit/edit product data via the Directory.

6. Assessment and Payment of Certification Fees

Except as noted below, the assessment and payment of certification fees shall proceed according to the AHRI GOM, Section 12.

6.1 Additional Deflection Tests. In the event of a first or second sample failure for Casing Deflection Rating Class, the Laboratory will immediately test at lower class' Rating Differential Static Pressure until the unit achieves acceptable results. The Participant/Applicant will be invoiced for these additional tests.

7. Issuance of Violations and/or Termination

Refer to Section 14 of the AHRI GOM.

8. Program Hierarchy, Complaints, and the Appeals Process

Refer to Section 15 of the AHRI GOM.

9. Proper Use of the AHRI Certification Mark and Claims to Certification

Refer to the AHRI Brand Usage Guide.

Appendix A. Standard Operating Procedure for Sample Inspection

A.1 For each BMG, each manufacturer shall provide casing characteristic information in the form of assembly drawing(s), piece part drawing(s), construction detail document(s), and/or pictures to provide the independent lab enough information to determine if the sample is built with the features critical to meet the manufacturer’s published ratings for that BMG. It is the manufacturer’s responsibility to update this documentation before selected sample arrives to be tested with an explanation of why the casing characteristic information has changed and what was done to verify its performance (i.e. applicable test reports, structural tests, thermal imagery...). AHRI and the laboratory will maintain these classified documents safe without chance of classified construction details/trade secrets from being distributed to other manufacturers. It is not the intent of AHRI to limit the design ingenuity of the manufactures to improve BMG acceptance in the marketplace nor slow down implementation of improved designs. Things that may be included in the casing characteristic information are how the panels, doors and unit is assembled detailing where gasket, caulk and sealants are applied. Manufacturers may also include construction details that are critical to meet the performance claimed like fastener center distances and fastener type. This would also provide an easy inspection of whether the BMG has a potential construction flaw before validation test.

The material and thickness of a sample of the Frame (where applicable), Panel, and Access Point shall be verified after the test. Also verified by sample after the test will be the insulation attachment method (i.e. adhesive), insulation type, and insulation thickness for the Frame, Panel, and Access Point.

For those units which are required to have Sample Inspections, the following checklist will be completed by the Laboratory upon completion of the sample’s Annual, Qualification, or Penalty test.

In Compliance? Y/N	Description	Comments
	All test sample piece parts match the documents including material and thickness.	
	All test sample gaskets and caulking are shown on the documents, as applicable.	
	Fastener center to center distances are within the range shown on the documents.	
	All test sample welds, supports and stiffeners are shown on the documents, as applicable.	
	All test sample door hinges, latches and gaskets match the documents, as applicable.	
	All test sample thermal breaks are shown on the documents, if applicable.	
	The material type and thickness of the casing matches the documents.	
	The insulation type and thickness matches the documents.	

For units which do not match their provided documents, the test will be considered invalid, a Tier 1 program violation shall be issued, and a new (or corrected in accordance with the documents) sample shall be provided.