



## SUMMARY

### STEPS TO EC-327/2011 MONITORING AND VERIFICATION PROGRAMME

*This is a summary only. The EC-327/2011 Monitoring and Verification Programme is fully described in eAMCA Publication 213.*



*Prior to starting the procedure, the applicant shall sign the License Agreement, which authorizes participation in the European Air Movement and Control Association EC-327/2011 Monitoring and Verification Programme. A sample of the License Agreement can be found in Annex A of AMCA Publication 213 or obtained from the European Air Movement and Control Association.*

#### **STEP A TESTING – Publication 213, Section 7.3 (APPLICANT'S RESPONSIBILITY)**

The fans may be tested in AMCA International's Laboratory, an AMCA International Independent Accredited Laboratory, an AMCA International Accredited Laboratory or tested by a program participant with an EN ISO 9001 accredited quality system. Contact AMCA International's Lab Manager to arrange for testing in AMCA International's Laboratory, or for information on AMCA International's Laboratory Accreditation Program.

*If the product that is submitted for compliance verification also has AMCA Certified ratings, then the base test used for product performance certification may be used for compliance verification.*

*If fan input power is determined in the test and several models in one product family meet the requirements of geometrical similarity found in Annex A of AMCA 211, then the fan laws can be used to determine performance parameters at other speeds and sizes. For "final assembly" fans, use of the fan laws may be not possible unless the proposed motor for the other size and/or speed is known with its performance.*

#### **STEP B APPLY FOR MONITORING AND VERIFICATION PROGRAMME LICENSE – Publication 213, Section 7.4 (APPLICANT'S RESPONSIBILITY)**

Application for obtaining a compliance verification license for a product family is made by completing an Application for the European Air Movement and Control Association Verification of EC-327 Compliance (form VCP-8E). The application is to be completed and sent electronically to the European Air Movement and Control Association along with the data required in Section 7.5. Each product family shall require a separate application.

European Air Movement and Control Association staff shall review the application and notify the applicant, if necessary, of any changes or further information required for compliance with



the programme. The application form can be obtained from the European Air Movement and Control Association web site.

## STEP C

### **SUBMITTAL OF REQUIRED DATA – Publication 213, Section 7.5 (APPLICANT’S RESPONSIBILITY)**

#### **SUBMIT TO AMCA INTERNATIONAL:**

- A. Completed VCP-8E Forms. Please submit a separate VCP-8E form for each product line.
- B. Copy of AMCA 211 license appendix if ratings have been previously certified by AMCA (optional). Previous performance certification of a product family is not a requirement to obtain a Verification of EC-327 Compliance Label.
- C. Test data in conformance with EN/ISO 5801 or equivalent method of test standard. These results must be corrected to standard air density.
- D. Test data showing that each model that is requested to be Verified Compliant meets the requirements of this programme. Not every fan model will have been tested – data may have been calculated or, interpolated from test data.
- E. AMCA Laboratory Accreditation documentation for the laboratory, or EN ISO 9001 documentation if tests are not conducted in the AMCA International Laboratory, or an Independent Accredited Laboratory.
- F. Type of fan (shall be either axial, centrifugal forward curved, centrifugal radial bladed, centrifugal backward curved with housing, centrifugal backward curved without housing, mixed flow, or cross flow fans, or any fan types under the scope of Regulation (EU) No 327/2011).
- G. Information required in section 3.2(1) through 3.1(11) and 3.2(14) of Annex I of EC-327.
- H. Confirmation that the motor, if supplied with the fan, complies with EC Regulation No 640/2009.
- I. Dimensional information for fan in accordance with Annex D.
- J. If fans are manufactured in more than one location, the licensee shall divulge these locations.
- K. For fans delivered as “final assembly,” the applicant shall ensure that motor input power or input power to the variable speed drive (VSD) is included in the test report. If a VSD is included, the applicant shall ensure that the VCP-8E includes the VSD as an appurtenance on the form.
- L. For fans delivered as “not final assembly”, the following information shall be included with the application:
  - a. if a motor will be supplied with the fan, include the manufacturer, model number, and nominal rated motor efficiency curve for the motor. If the supplied motor efficiency is rated in accordance with Regulation (EC) No 640/2009, that nominal efficiency curve shall be supplied. If the motor is not covered by this regulation or in case no motor is supplied, a default motor



efficiency will be calculated using the procedure in Regulation (EU) No 327/2011.

- b. if belt driven, include the manufacturer and type, width and height of belt that will be supplied or recommended for use with the fan and motor combination.
- c. indicate whether or not a VSD will be supplied with the fan.

**STEP D REVIEW OF SUBMITTED DATA – Publication 213, Section 7.6  
(EUROPE AMCA INTERNATIONAL'S RESPONSIBILITY)**

European Air Movement and Control Association staff will review the application for completeness and request any missing data. In addition, the staff will review the submitted data to determine if the required Regulation (EU) No 327/2011 target efficiency is met. Only the test data will be used to determine optimum efficiencies without interpolation or curve fitting between test points on a test curve. Interpolation as a means to predict between blade pitch angles, hub-to-tip ratio is acceptable. After a satisfactory review of the application and data submittal, European Air Movement and Control Association staff will select one model from each product family for a pre-compliance test.

**STEP E CONDUCT REQUIRED PRE-COMPLIANCE TEST(S) – Publication 213, Section 7.7  
(EUROPE AMCA INTERNATIONAL'S RESPONSIBILITY)**

The purpose of the pre-compliance test is to establish that the product will perform with required efficiency as shown by the applicant's test results. The pre-compliance test shall be conducted in accordance with EN/ISO 5801 or equivalent test standard, to establish the product family's compliance with Regulation (EU) No 327/2011. A pre-compliance test will be conducted for each product family and on each licensed installation category within that product family. If all of the product testing or rating certification testing was accomplished at the AMCA International Laboratory or at the European Air Movement and Control Association Laboratory, the pre-compliance test will be waived.

*A pre-compliance test can be performed at an AMCA International Accredited Laboratory when witnessed by AMCA staff or a designated European Air Movement and Control Association witness and another fan is pre-tested in the AMCA Laboratory and the AMCA Accredited Laboratory prior to the verification test (could be a lab check fan).*

**STEP F FINAL STAFF REVIEW AND ISSUANCE OF LICENSE ANNEX – Publication 213, Section 7.8  
(EUROPE AMCA INTERNATIONAL'S RESPONSIBILITY)**

Staff will issue a license documenting verification of compliance. The sizes in the product family that are compliant will then be added to the Directory of Verified Compliant Products.



## VERIFICATION TEST – Publication 213, Section 9

The purpose of a verification test is to ensure that the efficiency of the “as-manufactured” unit remains consistent with the performance ratings originally verified. Each product family that has at least one licensed model shall be subject to a verification test within 36 months of license issue and within 36-month periods thereafter under a continuing license agreement. In the event that the data submitted with the original application was obtained on a pre-production sample, the first verification test is required within 12 months of license issue and within 36-month periods thereafter under a continuing license agreement.

## CHECK LIST

Company \_\_\_\_\_

Model

- Step A      Test the product to be licensed
- Step B      Apply for License
- Step C      Submit the required data
- Step D      Review of submitted data
- Step E      Conduct required pre-compliance test(s)
- Step F      Final staff review and issuance of license annex