



**AEFCON QUALITY SEAL
FOR PLYWOOD**

HANDBOOK

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1. Introduction

The present handbook shows the requirements that plywood boards for fruits and vegetables packaging must comply with in order to obtain the Seal of Quality of AEFCON as well as the procedures for the application, concession and use of said Seal.

The AEFCON Quality Seal guarantees that the boards, taking into account the current legislation, are suitable to manufacture fruit and vegetable packaging and comply with the technical characteristics defined in this document.

2. Requirements for obtaining and maintaining the quality seal

2.1 Raw materials

Plywood panels for packaging are formed by 3 uncoated wood veneers, glued so that the fibers of the consecutive veneers form an angle of 90° to give maximum resistance to the board.

The wood species allowed for the manufacture of plywood with the AEFCON Quality Seal are: poplar, eucalyptus and conifers.

2.2 Technical characteristics of the board

The following sections define the technical characteristics that must be met by the plywood boards in order to obtain the AEFCON Quality Seal.

2.2.1 Qualities

Qualities are determined by the presence and frequency of defects, mainly knots, in face and back. UNE-EN 635-1: 1995 standard will be applied to determine the quality of the board. E, I and II classes, according to the standards UNE-EN 635-2: 1996 for boards with hardwood faces, and UNE-EN 635-3: 1996, for boards with conifers faces are accepted.

2.2.2 Bonding

Adhesives that allow class 1 or 2, according to the standard UNE-EN 314-2: 1994 will be used. These adhesives can be formaldehyde condensation, such as urea-formaldehyde or urea-melamine-formaldehyde, polyvinyl acetate with adequate durability, polyurethane, etc..

2.2.3 Formaldehyde emission

Only E1 boards are allowed, according to the standard UNE-EN 636: 2012 + A1: 2015, whereby the maximum of formaldehyde emission will be 3.5 mg/h-m², measured according to the standard UNE-EN ISO 12460-3: 2016 (former UNE-EN 717-2).

2.2.4 Dimensional Tolerance

Dimensions of the boards will be determined by UNE-EN 324-1: 1994 and UNE-EN 324-2: 1994 standards.

- a) Format: 1.000x1.000, 1.100x1.100, 1.150x1.150, 1.200x1.200 mm
- b) Thickness: 3 mm, 3,3 mm, 3,6 mm, 3,9 mm

Both tolerances of these dimensions and squareness and edge straightness, are those indicated by the UNE-EN 315: 2001 standard.

2.2.5 Density

The density value will be between 400 and 500 kg/m³ measured according to UNE-EN 323: 1994 standard.

2.2.6 Humidity

The maximum permissible moisture value is 12% measured according to UNE-EN 322: 1994 standard.

2.2.7 Bending strength and modulus of elasticity

- a) Bending strength: $\geq 36 \text{ N/mm}^2$ measured according to UNE-EN 310: 1994 standard
- b) Modulus of elasticity: $\geq 4,000 \text{ N/mm}^2$ measured according to UNE-EN 310: 1994 standard

3. Tests to be carried out

To get the AEFCON Quality Seal, the initial type test (ITT) will be carried out, as well as a control of board production by AIDIMME (Metal-Mechanical, Furniture, Wood, Packaging and Related Technological Institute).

The ITT samples will be selected so that a range study is carried out to contemplate all the thicknesses and species of wood with which each production line of the company works.

The control will consist of the collection of samples of the production process and the accomplishment of the following tests:

- Board quality, according to UNE-EN 635-1: 1995, UNE-EN 635-2: 1996 and UNE-EN 635-3: 1996 standards
- Bonding, according to UNE-EN 314-2: 1994 standard

- Formaldehyde emission, according to UNE-EN ISO 12460-3: 2016 (former UNE-EN 717-2) standard
- Dimensional tolerance, according to UNE-EN 324-1: 1994 and UNE-EN 324-2: 1994 standards
- Density, according to UNE-EN 323: 1994 standard
- Moisture, according to UNE-EN 322: 1994 standard
- Bending strength, according to UNE-EN 310: 1994 standard
- Modulus of elasticity, according to UNE-EN 310: 1994 standard

Factory production control tests shall be carried out on an annual basis. AIDIMME will select the samples to be tested, taking into account the thicknesses and species of wood, together with the historical, so that the complete range of boards manufactured by each production line of the company, destined to the fruit and vegetables sector, is controlled in a maximum period of three years.

4. Other requirements

4.1 General Food and Food Companies Register

In order for the company to obtain the AEFCON Quality Seal, it must be registered in the General Food and Food Companies Register (RGSEAA).

According to the "Guidelines for the registration of companies whose activity relates to materials in contact with food" issued by AECOSAN (Spanish Agency for Consumer Affairs, Food Safety and Nutrition) dated March 30, 2016, "manufacturers of finished components although they need to be assembled to form the final packaging (bottle cap, pieces of wood, cardboard) are required to register"

4.2 Due Diligence / Traceability

If the company wishing to obtain the AEFCON Quality Seal has a legal obligation to have a Due Diligence System in place (European Regulation 995/2010 laying down the obligations of operators who place timber and timber products on the market), it must submit to AEFCON the documentation that proves it, namely the following documentation:

- Document with the methodology of the Due Diligence System in place or certified by an authorized entity, if applicable
- Chop down / Imports control table
- Customers control table
- Copy of the Responsible Declaration delivered to the corresponding public administration, according to Annex I of Royal Decree 1088/2015, if the company is obliged to present it.

If the company only has an obligation to have a system that allows traceability, it must provide the documentation to prove that the system is in place.

4.3 PEFC / FSC Certification

The company requesting the AEFCON Quality Seal must have the Chain of Custody certified either by PEFC or FSC. To obtain the Seal you must present the corresponding certification issued by a certifying entity recognized by PEFC or FSC.

5. Granting procedure

5.1 Application

Companies that wish to obtain the AEFCON Quality Seal must inform AEFCON of their interest in writing by email or postal mail. To do so, they will complete and send the application form shown in Annex I.

5.2 Collection of samples

The team of the Technological Institute in charge of carrying out the analysis to the boards will make a visit to the factory for the collection of samples. Samples will be taken from each of the company's manufacturing lines.

The number of samples to be taken in each case will be 3, with measures of 1m x 1m each.

Dimensional measurements shall be carried out at the factory, when sampling is carried out, as boards come out of the production line.

5.3 Carrying out tests and granting the Quality Seal

The collected samples will be analyzed in the laboratory of the Technological Institute as determined in the present document.

The Technological Institute will issue a report on the results of the carried out analysis and will send it to AEFCON. If the results of the report are within the range allowed for granting the Quality Seal, AEFCON will issue the corresponding certificate. Otherwise the reasons for the refusal will be communicated to the applicant and a deadline will be given for a new application.