



1st CONFERENCE

STANDARDIZATION AND RELATED ACTIVITIES: A MEANS OF BALKAN COUNTRIES COLLABORATION

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**Control and Certification
of the European Wooden Pallet :
Current Status in Greece**

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1. Introduction

In the countries of Europe, the European pallet or Europallet is used widely in most of the commercial activities (imports and exports of agricultural goods, food products, industrial products, etc.). Europallet is a flat type - four entrance - wooden pallet in the form of 800 mm (length) x 1,200 mm (width). The specific features of the Europallet such as dimensions,

physical and mechanical properties and other characteristics are examined and controlled in various authorized wood technology laboratories within Europe, and always according to the Std. no. 435-2/7.1.94, which has been issued by the International Union of Railways (UIC). Hence, the Europallets that are controlled successfully and found to be in accord with the previously mentioned standard are authorized with the trade-mark *EUR* (trade-mark no. 430337, Organisation Mondiale de la Propriete Intellectuelle, Geneva, Switzerland).

2. Current Status of the European Pallet Standardization in Greece

In Greece, the control and certification of the European wooden pallet have not been implemented and enforced till today. Although the European market require that the transfer and conveyance of the agricultural and industrial products be made with authorized wooden pallets for many practical and safety reasons, such a standardization process for this important trade means has not yet been proceeded due to the various technical problems. Because of the above, Greek wood pallet industry cannot certify its products according to the European standards. In overall, the current "status quo" of this significant matter is being characterized in Greece as follows :

1. The standardization process has not been completed, while there is a high interest and willingness from the medium-to-large size pallet industries.
2. Many problems are caused in the exporting activities of Greece since the transfer of goods is not made with safety, while in many instances, bunches of Greek products are rejected or returned back because of the lack of certified *EUR* pallets.
3. The cost of purchasing foreign Europallets is high, and because of that, the exporting companies are forced either to buy *EUR* pallets from other European countries, or to use other not certified wooden pallets.
4. The sector of the Greek wood pallet industry has been in a retardation pace since 1985, and furthermore, foresees no development prospects for the future.

Surely, the implementation of the standardization process in that matter will definitely influence in a positive way this industrial sector beyond the other positive consequences in the national economy.

During the last eight months, the Forest Research Institute (FRI) in Thessaloniki, Greece, has being made an effort to organize and operate a new Wood Technology Laboratory, that is, the Laboratory of Europallets, after maintaining and reforming a pre-existing old laboratory, that is, the Laboratory of Wooden Packaging Means (was closed in 1987), in order to assist and proceed the control and certification of the European wooden pallets, in cooperation with the Ministry of Agriculture, and the Organization of Railways of Greece. However, although the above mentioned laboratory has been almost 100% ready, and furnished with the necessary technical equipment, no standardization of this wood product has been performed till today. The current problems and difficulties encountered so far are presented in detail in the following chapter.

In addition, it is imperative that such an effort be made in an interactive and cooperative way among the wood research entities from the Balkan countries, so as the ongoing problems and obstacles be removed and solved out. Consequently, the need for such a cooperative effort is highly encouraged by the FRI for the mutual benefit.

3. Current Problems and Difficulties

The problems and difficulties in implementing and enforcing a single standardization process for the European wooden pallets produced in Greece can be simply summarized as follows :

1. Inadequate financial support and funding of the ongoing standardization attempt of FRI by the Ministry of Agriculture of Greece.
2. Lack of coordination among the Greek wood pallet industries, and deficiency of a unique directive line to proceed their interests in that respect.
3. Absence of cooperation between the Ministry of Agriculture and the Organization of Railways of Greece, which is the wood pallet authorized Greek institution, and inability to proceed such a standardization process due to various bureaucratic or other reasons.
4. Low interest from the Organization of Railways of Greece to proceed such a matter since (a) it does not have the required technical personnel, and (b) it does not have a direct interest since the size of its railroad cars is inappropriate and unsuitable to carry European *EUR* pallets.
5. No appropriate national legislation or policy to require and enforce the use of such certified and standardized wood pallets in the country's importing and exporting trade activities.

4. Proposed Protocol for the European Pallet Control

Main Part

The main part of this protocol that is suggested in the control of the European wooden pallet (Europallet) includes three parts : Part A (Introduction), Part B (Control Results), and Part C (Final Conclusion).

Part A. Introduction

According to the standard no. 435-2 (UIC 1994), the control of the Europallets begins with the following way :

(a) Depending upon the size of the Europallet pile tested, a sample of Europallets (Table I) is selected with a statistical randomized selection method. This sample has to be a highly representative sample of the overall Europallet pile, and must go through all the steps of the control procedure.

(b) After that, Table II is filled up correspondingly. Table II usually contains the name

and address of the Europallet manufacturer, the standard of control, the size of the Europallet pile tested, and the size of the randomly selected Europallet sample.

Part B. Control Results

Part B is the main part of this protocol. It includes the results of the eye control (Table III), the dimensional control (Table IV), and the quality control (Table V) of the representative sample of Europallets. At the end of each control there is a sum of the total number of defects found in the whole sample. In general, the defects are divided in three categories depending upon their significance (UIC 1987, 1994) : (a) minor defects, (b) major defects, and (c) critical defects.

For a specific Europallet sample size, the maximum allowed number of defects in each category is defined by the std. 435-2 (UIC 1994) (Table I). Each of the defects, in each of the control steps (eye control, dimensional control & quality control) is characterized as minor, major, or critical defect according to the previous standard (Tables III, IV, V).

Part C. Final Conclusion

The final conclusion of this protocol is to be completed as follows :

After the end of the control of the representative sample of Europallets tested, there have been found the following defects (eye control defects + dimensional control defects + quality control defects) :

- (a) (number) minor defects
- (b) (number) major defects
- (c) (number) critical defects

Consequently, according to the Table II (UIC 1994), it is concluded that the particular Europallet pile is either :

- I. in accordance with the std. 435-2/UIC/7.1.94, and therefore,
 IS AUTHORIZED WITH THE TRADE-MARK EUR ,
when each number of defects is equal or less than that of the corresponding one of the std. 435-2 (Table I), or
- II. not in accordance with the std. 435-2/UIC/7.1.94, and therefore,
 IS NOT AUTHORIZED WITH THE TRADE-MARK EUR ,
when at least one number of defects is greater than that of the corresponding one of the above standard (Table II).

(Laboratory of certification)

(Date of control)

(signature)

(signature)

Laboratory Supervisor

Laboratory Director

TABLE I
Maximum number of defects allowed in
the certification of European pallet
with the trade-mark EUR (UIC 1994)

Size of Europallet pile tested	1-150	151-280	281-500	501-1200	1201-3200	3201-10000
Size of representative sample	8	13	20	32	50	80
Critical defects	0	0	0	0	0	0
Major defects	5	7	10	14	30	30
Minor defects	10	14	21	30	44	70

TABLE II
General information

Name and address of the Europallet manufacturer	
Standard of the control method	Std. no. 435-2/7 th edition/UIC/7.1.1994
Size of the Europallet pile tested	
Size of the representative Europallet sample	

TABLE III
Eye control of the European wooden pallet

No.	Checks of eye control	Evaluation of material and elements				Remarks
		<i>In accord with the standard</i>	<i>Minor defects</i>	<i>Major defects</i>	<i>Critical defects</i>	
1	Wood species					
2	Quality of wood					
3	Type and material of joint elements					
4	Steaming or impregnated wood					
5	Scraped or planed wood					
6	Discoloration or fungi staining wood					
7	Brown-white rot, bark pockets, rings					
8	Raised or loosened grain					
9	Defects from insects					
10	Checks					
11	Cross grain					
12	Ratio of sapwood to heartwood					
13	Resin canals					
14	Cracks					
15	Encased or loose knots					
16	Total number of knots					
17	Sticking out joint elements					
18	Missing or perversed joint elements					
19	Positioning of joint elements					
20	Material of blocks (wood, fiberboard, particleboard)					
21	Edge bevels					
Total number of eye control defects						

TABLE IV
Dimensional control of the European wooden pallet

No	Checks of dimensional control	<u>Evaluation of Europallet's dimensions</u>				Remarks
		<i>In accord with the standard</i>	<i>Minor defects</i>	<i>Major defects</i>	<i>Critical defects</i>	
1	Total length					
2	Total width					
3	Height of entrance					
4	Distance of median face planks					
5	Distance of central hunk (lengthwise)					
6	Distance of central hunk (widthwise)					
7	Length of face planks					
8	Width of side face planks					
9	Width of median face planks					
10	Width of central face plank					
11	Thickness of face planks					
12	Length of base planks					
13	Width of side base planks					
14	Width of central base plank					
15	Thickness of base planks					
16	Length of blocks					
17	Width of side blocks					
18	Width of central blocks					
19	Thickness of blocks					
20	Length and diameter of joint elements					
21	Dimensions of edge bevels					
Total number of dimensional control defects						

TABLE V 162
Quality control of the European wooden pallet

No.	Tests of quality control	Evaluation of quality control tests				Remarks
		<i>Number of samples</i>	<i>Number of test cycles</i>	<i>In accord with the standard</i>	<i>Critical defects</i>	
1	Measurement of moisture content of wood					
2	Measurement of average shrinkage of wood					
3	Measurement of loading strength (random load of 1,000 Kg)					
4	Measurement of loading strength (uniform load of 1,500 Kg)					
5	Measurement of loading strength (compressed load of 2,000 Kg)					
6	Measurement of loading strength (maximum load of 4,000 Kg)					
7	Measurement of diagonal rigidity (corner drop test)					
8	Measurement of tear strength of assemblies (3 tests)					
9	Measurement of strength of resistance of joint elements					
10	Measurement of density of particleboard blocks					
11	Measurement of average swelling of particleboard blocks					
12	Measurement of aging time of particleboard blocks					
Total number of quality control defects						

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