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OFFICIAL REPORT
ON FIRE RATING CLASSIFICATION

drawn up in conformity with the article 5 of the order dated November 21, 2002 modified

VALIDITY 5 YEARS (until June, 15th 2022)

N° 19471-17/A

MATERIAL PRESENTED BY : Palram Europe Ltd
Unit 2, Doncaster Carr Industrial Estate
White Rose Way, Doncaster DN4 5JH
UNITED-KINGDOM

COMMERCIAL BRAND NAME : PALBOARD

BRIEF DESCRIPTION : Multi-layered PVC sheet, solid layer on the outside, foam core.
Densities : 0,58 to 0,62 g/cm^3
Thicknesses : 3 to 5 mm
Colour présented : White

TYPE OF TESTS : Test by radiation

CLASSEMENT : **M1** available for thicknesses between 3 and 5 mm.

*** Classification only valid for any product not subjected to the CE mark**

DURABILITY OF CLASSIFICATION : **unlimited a priori**

Taking into account the criteria resulting from the test described in the appended test report n°19471-17/A of June, 15th 2017
This certificate certifies that only the characteristics of the sample subjected to the tests and does not prejudge the characteristics of similar products. So, this is not a certification of products in accordance with the article L. 115-27 of the consumer code and of the law of the June 3rd, 1994.

At Le Bouchet, **June, 15th, 2017**
Head of the "Fire testing" laboratory

Hélène BARBIER

N.B. : The sole authorized reproductions of this document will be in the form of photocopies of the certificate or the complete document (certificate and report of the test).

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TEST REPORT

drawn up in conformity with the article 5 of the order dated November 21, 2002 modified

VALIDITY 5 YEARS (until June, 15th 2022)

N° 19471-17/A

and annexes of 3 pages

1 – PURPOSE OF TESTS : subject a material to the action of a radiant heat source

2 - SOURCE AND CHARACTERISTICS OF THE SAMPLES

2-1 MANUFACTURER : Palram Industies Ltd
Ramat-Yohanan 30035
ISRAEL

2-2 DISTRIBUTOR : Palram Europe Ltd
Unit 2, Doncaster Carr Industrial Estate
White Rose Way, Doncaster DN4 5JH
UNITED-KINGDOM

2-3 COMMERCIAL BRAND NAME : PALBOARD

2-4 CARACTERISTICS CERTIFIED BY THE APPLICANT :

Multi-layered PVC sheet, solid layer on the outside, foam core.
Densities : 0,58 to 0,62 g/cm^3
Thicknesses : 3 to 5 mm
Color presented : White

2-5 CARACTERISTICS VERIFIED BY THE LABORATORY

Multi-layered PVC sheet, solid layer on the outside, foam core.
Reception date of material : 05/12/2017
Densities : 0,52 to 0,57 g/cm^3
Thicknesses : 3 to 5 mm
Color presented : White

3 - MODALITIES OF TESTS AND RESULTS

Annexe page 1 : Modalities of tests, conditioning, classification, durability.
Annexe page 2 : Result of tests, boards.
Annexe page 3 : Comment on tests.

MODALITIES OF TESTS FOR RIGID MATERIALS OR "RENDUS TELS"(GLUED COATINGS) IN ALL THICKNESS AND FOR FLEXIBLE MATERIALS WITH A THICKNESS HIGHER TO 5 mm (EXCEPT FILTER MEDIAS)

1 - TEST BY RADIATION

To determine the performance of plane samples when they are subjected, in defined conditions, to an action of a radiant heat source.
The burning behaviour is:
- ignition of pyrolysis gases,
- spread of flame.

The sample (30 cm * 40 cm) disposed at 45° in comparison with the horizontal plan, exposed to a definite radiation, produced by an electric radiator, to a distance of 3 cm of the surface of the material.
Two ignition systems are set in the both sides of the samples to ignite the pyrolysis gases.
Each test lasts 20 minutes.

2 - COMPLEMENTARY TESTS

(articles 4 and 42)
The materials which show a particular attitude during the principal test are tested to the complementary tests described hereafter.

2-1 Drop point test

The sample (7 cm * 7 cm) is put on a metallic grid, is subjected to a radiant heat source, a radiator, set 3 cm above.
During 5 minutes, the radiator is isolated at each lighting and removed after extinction.
During 5 complementary minutes, the radiator stays above the sample until the end of test.
The deciding factors are :
- drops in flame or not
- lighting of cotton set 30 cm under the sample.

2-2 Flame propagation test

The sample (40 cm * 3.5 cm) set vertically, on edge, is subjected to a gas burner flame.
The propagation speed is measured between two marks separated of 25 cm, or in the case of non-propagation of the flame, the times of flame persistence, the extends of combustion and the burning drops or not, are noted.

2-3 Gross calorific value test

The quantity of gross calorific value is determined by the combustion of a known mass ignited in a bomb calorimeter under oxygen in pressure.

3 - CONDITIONING OF SPECIMENS

Prior to test, the specimens were conditioned to constant mass at a temperature of 23 ± 2 °C and a relative humidity of 50 ± 5 %.

4 - CLASSIFICATION OF MATERIALS

In accordance with the tests by radiation and, if necessary, the complementary tests, the materials are classified M1, M2, M3 or M4.
Only, the materials for which non-effective lighting to the test by radiation is noted, can claim the M0 classification.

5 - DURABILITY TESTS

The terms of these tests, their interpretation and the process of classification are defined in the norm NF P 92-512.

RESULTS OF TESTS BY RADIATION
According to NF P92-501 standard in December 1995

SAMPLE N°		1	2	3	4	5	Average
Tested thickness (mm)		3	5	5	5	5	
Inflammation							
exposed face	ti	/	1 min. 38	1 min. 19	1 min. 19	1 min. 19	
	te	/	2 min. 42	1 min. 45 Puis	2 min. 03	1 min. 48	
exposed face	ti	/	/	2 min. 26	/	/	*The average is based on the four most unfavourable tests*
	te	/	/	2 min. 32	/	/	
non-exposed face	ti	/	2 min. 04	/	/	/	
	te	/	2 min. 42	/	/	/	
Total extinction		/	2 min. 42	2 min. 32	2 min. 03	1 min. 48	
Summon of heights of flames H (cm)		/	15	9	9	6	
$q = \frac{100 * H}{ti * \sqrt{T}}$		0	1,91	2,01	1,72	1,41	1,76
Observations							
Flames maximal height (cm)		/	6	6	6	6	
Weight P1 of the sample before test (g)		187,8	330,1	331,2	330,6	311,1	

Date of performing tests : 06/08/2017 (test n° 1), le 06/09/2017 (tests n°2 and 3) and 06/12/2017 (tests n°4 and 5).

* : without height of flame exceeding the epiradiator
ti : moment of ignition
te : moment of extinction
H : summon of heights of flame
T : total duration of combustion
P1 : weight of stabilized sample

4 - OBSERVATIONS CONCERNING THE TESTS

4.1- Test by radiation

Five samples were tested.
One test was realised on the lowest thickness (3 mm), and the second on the most important thickness (5 mm).
Three additional tests were realised on the most unfavourable case (5 mm).

On the thickness 3 mm, no inflammation was observed.
On the thickness 5 mm, during each test we observed an inflammation.

The q indices average is based on the four most unfavourable tests.
It equals to 1,76.

At Le Bouchet, June, 15th 2017

Head of the "Fire testing" laboratory

Hélène BARBIER