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Petitioner's reference: **ISOFLEX AB.**
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SWEDEN



Nº 9/LE897

= TEST REPORT =

Date at which the sample was received: 2006-10-10

Date at which test was performed: Start: 2006-10-11
End: 2006-10-20

OBJECT OF THE TEST

Determination of the fire reaction of a sample, based on the UNE 23.727-90 standard: "Fire reaction tests of construction materials. - Classification of the materials used in construction".

(*) the classification achieved for the range of thicknesses according to section 3.7 of UNE 23730-90 is not included in the accreditation scope of ENAC.

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CHARACTERISTICS OF THE SAMPLE

The petitioner sent three sets of sheets of transparent cellular polymer material with an approximate thicknesses of 20 mm, 40 mm, and 60 mm, respectively, with the following indications in the technical specifications in possession of this laboratory:

- Product's commercial reference: MONIFLEX-T
 - 20 mm → T4
 - 40 mm → T8
 - 60 mm → T12
- Composition: Cellulose + diacetone
- Thickness of the sheets: 20 mm, 40 mm, and 60 mm, respectively.
- Weight: 13 Kg/m³
- Color: Transparent.

TEST REQUESTED

Fire reaction test applicable for the determination of the classification, according to standard UNE 23.727-90.

Test on the range of thicknesses (*) 20 mm, 30 mm, 40 mm, 50 mm, and 60 mm, thereby testing the thicknesses of 20 mm, 40 mm, and 60 mm.

== R E S U L T S ==**20 mm THICKNESS (Reference T4)**

The samples remained in a conditioning chamber at 23°C ± 3°C, and at 50% ± 10% relative humidity, having achieved a constant weight (± 2%).

Radiation test (UNE 23721-90)

Environmental conditions: 22.2 °C and 56.0 % RH.

Test Tubes	I	II	III	IV	AVERAGE
i) flammability index	0	0	0	0	0
Uncertainty (k=2)	0				
s) flame development index	0	0	0	0	0
Uncertainty (k=2)	0				
h) maximum flame length index	0	0	0	0	0
Uncertainty (k=2)	0				
c) combustibility index	< 1	< 1	< 1	< 1	< 1
Uncertainty (k=2)	the conformity was declared by the inclusion criterion with an uncertainty of ± 0.03				

While the test was being conducted, the fast puncturing of the material was noticed (56 s in average), with no inflammation of the test tube.

Complementary flame propagation speed test (UNE 23724-90)

Checking of the non-persistence and non-propagation of the flame (Section 6.4)

Environmental conditions: 21,0°C and 56.0 % RH.

Test Tubes	I	II	III	IV	AVERAGE
a) Maximum persistence of the flame (in sec)	0	0	0	0	0
b) Appreciable propagation of the flame	NO	NO	NO	NO	NO
c) Fall of drops	YES (*)	YES (*)	YES (*)	YES (*)	YES (*)
Uncertainty (k = 2)	0				

(*) Non-inflamed drops

According to section 6.4 of this standard, flame persistence was not considered to have occurred when flame duration was under 2 seconds.

Complementary drip test applicable to materials that are meltable (UNE 23725-90)

Environmental conditions: 24.0 °C and 60.0 % RH.

Test Tubes	I	II	III	IV	AVERAGE
a) Time lapsed up to the first Inflammation (in sec)	42	36	46	44	42
b) Duration of inflammation (in sec)	104	124	98	104	108
Uncertainty (k = 2)	± 0,57 sec				
c) Maximum flame height (in mm)	220	260	200	220	225
Uncertainty (k = 2)	± 1.52 mm.				

No dripping of inflamed drops and no inflammation of the cellulose slag were noted while the test was being conducted.

Classification of the sample presented: M.1

40 mm THICKNESS (Reference T8)

The samples remained in a conditioning chamber at 23°C ± 3°C, and at 50% ± 10% relative humidity, having achieved a constant weight (± 2%).

Radiation test (UNE 23721-90)

Environmental conditions: 21.0 °C and 58.0 % RH.

Test Tubes	I	II	III	IV	AVERAGE
i) flammability index	0	0	0	0	0
Uncertainty (k=2)	0				
s) flame development index	0	0	0	0	0
Uncertainty (k=2)	0				
h) maximum flame length index	0	0	0	0	0
Uncertainty (k=2)	0				
c) combustibility index	< 1	< 1	< 1	< 1	< 1
Uncertainty (k=2)	the conformity was declared by the inclusion criterion with an uncertainty of + 0.03				

The material was seen to melt in the course of the test.

Complementary drip test applicable to materials that are meltable (UNE 23725-90)

Environmental conditions: 23.0 °C and 59.0 % RH.

Test Tubes	I	II	III	IV	AVERAGE
a) Time elapsed until the first inflammation (in sec)	50	48	32	50	45
b) Duration of inflammation (in sec)	80	68	110	102	90
Uncertainty (k = 2)	± 0,57 sec				
c) Maximum flame height (in mm)	300	300	280	280	290
Uncertainty (k = 2)	± 1.52 mm.				

No dripping of inflamed drops and no inflammation of the cellulose slag were noted while the test was being conducted.

Classification of the sample presented: M.1

60 mm THICKNESS (Reference T12)

The samples remained in a conditioning chamber at 23°C ± 3°C, and at 50% ± 10% relative humidity, having achieved a constant weight (± 2%).

Radiation test (UNE 23721-90)

Environmental conditions: 21.0 °C and 58.0 % RH.

Test Tubes	I	II	III	IV	AVERAGE
i) flammability index	0	0	0	0	0
Uncertainty (k=2)	0				
s) flame development index	0	0	0	0	0
Uncertainty (k=2)	0				
h) maximum flame length index	0	0	0	0	0
Uncertainty (k=2)	0				
c) (combustibility index	< 1	< 1	< 1	< 1	< 1
Uncertainty (k=2)	the conformity was declared by the inclusion criterion with an uncertainty of + 0.03				

The material was seen to melt in the course of the test.

Complementary drip test applicable to materials that are meltable (UNE 23725-90)

Environmental conditions: 21.0 °C and 56.0 % RH.

Test Tubes	I	II	III	IV	AVERAGE
a) Time lapsed up to the first inflammation (in sec)	74	58	48	58	60
b) Duration of inflammation (in sec)	72	106	90	120	97
Uncertainty (k = 2)	± 0.57 sec				
c) Maximum flame height (in mm)	220	300	220	220	240
Uncertainty (k = 2)	± 1.52 mm.				

No dripping of inflamed drops and no inflammation of the cellulose slag were noted while the test was being conducted.

Classification of the sample presented: M.1

THICKNESS	CLASSIFICATION
20 mm.	M.1
40 mm.	M.1
60 mm.	M.1

(*) According to Section 3.7 of Standard UNE 23730-90, and since the only variable parameter is its thickness, the following is considered:

Classification of the samples presented: M.1
Classification valid for the following thickness ranges:
20 mm, 30 mm, 40 mm, 50 mm and 60 mm.



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The results refer exclusively to the samples tested and at the time and conditions indicated.

The expanded uncertainty stated is based on a typical uncertainty multiplied by a coverage factor, $k=2$ which, for a normal distribution, provide a reliability level of approximately 95%.

Applus+ guarantees that this task has been carried out in compliance with the requirements of our Quality and Sustainability System, and furthermore, that the contractual terms and legal regulations have been complied with.

In the framework of our improvement program, we would appreciate any comment you may deem appropriate. These should be addressed to the manager who signs this document, or to the Quality Director of Applus+, A. Fernández, at the following address: satisfaccion.cliente@appluscorp.com

In the event litigation, the Spanish version will be valid.
