



Département des achats et de la logistique
Laboratoire essais et mesures
1 bis rue des Sablons, 94470 Boissy Saint Léger

Test report n° 09.0569A

M and F classifications as per French standards NF P 92-507 and NF F 16-101 complemented by Technical Specification STM-S-001 C of the product “FLOOR001: ASPHALT ART”

Written by the test supervisor : David Herrati Tél: +33 1 58 78 90 72
Validated by the technical manager : David Herrati Tél: +33 1 58 78 90 72

A handwritten signature in black ink, appearing to read 'Herrati', is positioned below the contact information.

Validation date : **11th june 2009**

This report includes : 8 pages including 4 appendices

Reproduction and dissemination of this test report are authorized only in its entirety

EURAILTEST
RAILWAY CONSULTANCY, ENGINEERING AND TESTING
Member of the GIE

M and F classifications as per French standards NF P 92-507 (February 2004) and NF F 16-101 (October 1988) complemented by Technical Specification STM-S-001 C of the product “FLOOR001: ASPHALT ART”

Product : *FLOOR001: ASPHALT ART*

Origin : *Asphalt-Art international SA*

Requester :	M. André Fiechter
Request reference :	CO ERT3224 / 2901
Date :	17/04/2009
Billing account :	-

Recipients:	
M. André Fiechter	Asphalt-Art international AG Riedstrasse 7, CH-6330 Cham, Suisse

Filing :	LEM + PPC
----------	-----------

Special references :	SC 09-051-PPC
----------------------	---------------

Test conductors :	AEF
-------------------	-----

	SNPE
--	------

A	Applicant.change
---	------------------

B	
---	--

Date of 1 st issue	11th may 2009
-------------------------------	---------------

Cancel and supercedes	09.0569
-----------------------	---------

Reproduction and dissemination of this test report are authorized only in its entirety

1 Subject

M and F classifications as per French standards NF P 92-507 (February 2004) and NF F 16-101 (October 1988) complemented by Technical Specification STM-S-001 C of the product "FLOOR001: ASPHALT ART"

2 Results

According to criteria of standards NF P 92-507 (February 2004) and NF F 16-101 (October 1988) complemented by Technical Specification STM-S-001 C (October 2006), the product "FLOOR001: ASPHALT ART" is classified:

F 2	M 1
------------	------------

Note: To declare, or not, conformity with the standards and/or the specifications as well as the classification defined above, the uncertainty associated with the result was not explicitly taken into account. The rules of declaration of conformity and classification are described in an internal document at the Laboratory, consultable on request.

Reproduction and dissemination of this test report are authorized only in its entirety

3 Product submitted for testing

Product name..... : FLOOR001 : ASPHALT ART
Product type..... : Aluminum and polyurethane glue
Use..... : Advertising or signage on ground
Manufacturing process..... : Unspecified
Origin..... : Asphalt-Art international SA
Date of receipt of samples by
the Laboratory..... : 31/10/2008

4 Special sampling conditions

1. The sampling of test pieces is conducted under the requester's responsibility.

Supplied by the requester:

- 10 specimens of 76.0 mm X 76.0 mm thickness 0.5 mm
- 8 specimens of 400.0 mm X 300.0 mm thickness 0.5 mm

2. According to the control of conformity of test specimens, the preparation was carried out by LEM.

The specimens are manufactured with the requirements of standards referenced in the subject

Markings on the sample:

« FLOOR001 : ASPHALT ART »

5 Discrepancies noted

No discrepancies with the requirements of the standards.

The samples were conditioned during at least 48 hours before the test under conditions of temperature of 23 ± 2 °C and relative humidity of 50 ± 5 % RH.

6 Specific test conditions

No prior ageing.

7 Baseline or reference documents

M classification is defined in standard NF P 92 507 (February 2004), F classification is defined in standard NF F 16-101 (October 1988) and technical specifications STM-S-001 C (October 2006).

8 Results

Results are described in appendices 1 to 4.

F classification is performed by the laboratory AEF which is accredited COFRAC (accreditation number 1-0240).

M classification is performed by the laboratory SNPE under ministerial authorization.

Reproduction and dissemination of this test report are authorized only in its entirety

FIRE BEHAVIOR / FLAME SPREAD**Appendice 1**

Test conductor: SNPE

Date : unspecified

Product name.....: FLOOR001 : ASPHALT ART

Reference standard.....: NF P 92-501 (December 1995)

Number of specimen tested.....: 4

Test equipment.....: The equipment is in conformity with the standard *NF P 92-501*

Dimension of test specimen: 400.0 mm x 300.0 mm and 0.5 mm thickness

Test Results:

Eprouvette	1	2	3	4
Thickness (mm)	0.5	0.5	0.5	0.5
Dimensions (mm)	400.0 X 300.0	400.0 X 300.0	400.0 X 300.0	400.0 X 300.0
intila weight (g)	1469	1440	1423	1410
weight loss (%)	-	-	-	-
Σ h	0	0	0	0
Δ T	0	0	0	0
t1(s)	Néant	Néant	Néant	Néant
td1(s)	Néant	Néant	Néant	Néant
e1(s)	Néant	Néant	Néant	Néant
q	0	0	0	0

$$\text{where } q = \frac{\sum h \times 100}{t_i \times \sqrt{\Delta T}}$$

Σh : sum of the maximal lengths (cm) reached by the flames during each period of 30 seconds :

- over the upper border of the oven for the upper side of the sample
- and over the reference mark for the lower side of the sample

ΔT: time of combustion (flames over the upper limit of the flat part of the radiant source for the lower side of the sample

ti1: ignition time of the upper side of the sample

ti2: ignition time of the lower side of the sample

td1: time for the flames to spread over the limit of the upper border of the flat part of the radiant source for the upper side of the sample

td2: time for the flames to spread over the reference mark for the lower side of the sample

e1: extinguishment time for the lower side of the sample

e2: extinguishment time for the upper side of the sample

Notes:

Reproduction and dissemination of this test report are authorized only in its entirety

COMBUSTION GASES**Appendix 2**

Test conductors.....: AEF

Date : From
08/12/2008 to
16/12/2008

Product name.....: FLOOR001 : ASPHALT ART

Reference standard.....: NF X 70-100-1 (April 2006) et NF X 70-100-2 (April 2006).

Test equipment.....: *The thermal degradation of material and the analysis of combustion gases are carried out by using apparatuses in conformity with the Standards quoted above.*
The analysis of carbon monoxide and carbon dioxide is carried out by infra red spectroscopy.
The analysis of chlorides, bromides, sulphates and cyanides is carried out by ionic chromatography.
The analysis of fluorides is carried out by UV spectrophotometry.

Test conditions.....:

- Test temperature: 600 °C
- Sample mass: 1.0 g
- Air flow: 2 L.min⁻¹
- Mode: aspiration
- Duration.....: 20 minutes

Results :

Emitted gases in mg per g of material

				Average value	100 Ci / Cci
CO	:	85.7	98.6	93.6	5.3
CO ₂	:	393.6	551.9	497.6	0.5
HCl	:	55.8	54.2	55.4	36.9
HBr	:	ND	ND	0.0	0.0
HF	:	ND	ND	0.0	0.0
HCN	:	0.7	1.7	1.2	2.2
SO ₂	:	ND	ND	0.0	0.0
ND = Not Detected.					

ITC = 45.0

Notes :

Reproduction and dissemination of this test report are authorized only in its entirety

SMOKE OPACITY**Appendix 3**

Test conductor : AEF Date : 08/12/2008

Product name..... : FLOOR001 : ASPHALT ART

Reference standard..... : NF X 10-702-1 (November 1995) et NF X 10-702-2 (September 1994).

Test equipment..... : *The determination of the smoke opacity is carried out using apparatuses in conformity with the standard quoted above.*

Dimensions of test specimen: 76.0 mm x 76.0 mm and 0.3 mm thick

Mode : With pilot flames With no pilot flame

Number of specimen tested..... : 3 in mode 'With flames' and 1 in mode 'With no flame'

Results:

NF F 16-101	ESSAI NON RETENU	ESSAIS RETENUS			MOYENNE
Dm	27	47	44	45	45
VOF4	28	85	63	67	72

Reproduction and dissemination of this test report are authorized only in its entirety

CLASSIFICATION AS PER AS NF F 16-101

Appendix 4

F classification :

$$\text{Calculation of the smoke index I F} = \frac{Dm}{100} + \frac{VOF4}{30} + \frac{ITC}{2}$$

$$\text{Smoke index I F} = \frac{45}{100} + \frac{72}{30} + \frac{45.0}{2} = 25$$

Criteria of the F classification	
Class	IF value
F0	≤ 5
F1	≤ 20
F2	≤ 40
F3	≤ 80
F4	≤ 120
F5	> 120

M classification :

q_{average}: 0

TEST	CLASSIFICATION CRITERIA	CLASSIFICATION
NF P 92-501	q average < 2,5	M1
	q average < 15	M2
	q average < 50	M3
NF P 92-504	q average > 50 and Vp < 2 mm/s	M4

If the material melts and bores without flaming, classification criteria are:

TEST	CLASSIFICATION CRITERIA			
	No droplets	No flaming droplets	Flaming droplets or fragments	
NF P 92-505	No ignition of the cotton			Ignition of the cotton
NF P 92-504	No droplets	No flaming droplets	Flaming droplets or fragments	M4
No flame persistence > 2 s	M1	M1	M1	
Persistence ≤ 5 s	M2	M2	M2	
Persistence < 5 s without spreading	M3	M3	M3	
Vp < 2 mm/s	M4			

Reproduction and dissemination of this test report are authorized only in its entirety