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European Technical Assessment

ETA 18/0550 of 28/01/2020

English translation prepared by IETcc. Original version in Spanish language

General Part

Technical Assessment Body issuing the European Technical Assessment:

Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc)

Trade name of the construction product

F-2001
Thermospray white basic 20 %

Product family to which the construction product belongs

ROAD MARKING PRODUCTS

Manufacturer

Fabricación y Aplicación de Pinturas Especiales, S.A.
Calle Paloma, 13, P.I. Los Gallegos
28946 Fuenlabrada (Madrid) – SPAIN
www.faplisa.es

Manufacturing plant(s)

FAPLISA
Calle Paloma, 13, P.I. Los Gallegos
28946 Fuenlabrada (Madrid) – SPAIN

This European Technical Assessment contains

6 pages

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of

EAD 230011-00-0106
ROAD MARKING PRODUCTS

This version replaces

ETA 18/0550 issued on 02/11/2018

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

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Specific parts

1. Technical description of the product

F-2001 is a road marking thermoplastic (as defined in EN 1871) used as a surface coating material for signalisation purposes when it is applied on the road requiring dropped-on materials. The thermoplastic is put on the market with indications on types and proportions of dropped-on materials.

Trademark: **F-2001 Thermospray white basic 20 %**

Nature: Hot applied (by spray) thermoplastic

Colour: White

Producer: FAPLISA

Physical and chemical characteristics: see Table 1.1.

CHARACTERISTICS	DECLARED VALUE
Luminance factor	$\beta = 0.82$
Chromaticity co-ordinates	Inside the white polygon
Ageing UV-B	$\Delta\beta \leq 0.05$
Heat stability	$\Delta\beta \leq 0.03$
Softening point	$\geq 110 \text{ }^\circ\text{C}$

The product has to be considered as the basis of a family. It may be used in different combinations (proportions) and/or installation instructions in order to reach different intended uses. Each of these combinations is identified as a *System* of the same family.

Identification of the Systems

This ETA concerns the:

F-2001 – System 1 defined by the installation instructions given in Table 1.2 together with the Certificate of Constancy of Performance number of the drop-on materials.

Identification of materials and type of application		Dosage(s)
Surface coating material	Trademark: F-2001 Thermoplastic with premix glass beads, hot-applied by spray with drop-on materials	3 000 g/m ²
Drop-on material	Trademark: glass-beads EHOSTAR 10 TRM Certificate of Constancy of Performance: 0099-CPR-A72-0001	500 g/m ²

F-2001 – System 2 defined by the installation instructions given in Table 1.3 together with the Certificate of Constancy of Performance number of the drop-on materials.

Identification of materials and type of application		Dosage(s)
Surface coating material	Trademark: F-2001 Thermoplastic with premix glass beads, hot-applied by spray with drop-on materials	2 000 g/m ²
Drop-on material	Trademark: glass-beads EHOSTAR 10 TRM Certificate of Constancy of Performance: 0099-CPR-A72-0001	450 g/m ²

NOTE: Other combination(s) than Systems 1 and 2 must be assessed and it (they) can give rise to an addendum to this ETA.

2. Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD).

2.1 F-2001 Thermospray white basic 20 % – Systems 1 and 2

- It is intended to be used for white permanent road markings in trafficked areas without presence of traffic with studded tyres.
- It is designed to give to the resulting road marking satisfactory day and night visibility on dry, wet and rainy conditions and skid resistance properties at initial and after 4 million roll-overs.
- The substrate on which it has provided satisfactory performances is bituminous asphalt with a maximum roughness of 0.9 mm (texture depth in accordance with EN 13036-1).
- It is intended to be used (not applied) at a temperature range from -20 °C to +50 °C for outside uses and from +5 °C to +50 °C for indoor uses. In addition, where relevant, the product has provided satisfactory performance for UV ageing.

2.2 Relevant general conditions for the use of the kits

The provisions made in this European Technical Assessment are based on an assumed working life of 1 year as minimum, according to EAD 230011-00-0106, provided that the conditions lay down for the installation, packaging, transport and storage as well as appropriate use, maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right product in relation to the expected economically reasonable working life of the works.

Installation should be carried out according to the ETA holder's specifications and using the specific application instructions of the product manufactured by the ETA holder or by suppliers recognized by the ETA holder. Installation should be carried out by appropriately qualified staff and under the supervision of the technical responsible of the site.

3. Performance of the product and references to the methods used for its assessment

3.1. Essential characteristics of the product

The identification tests and the assessment for the intended use of this road marking product according to the Basic Work Requirements (BWR) were carried out in compliance with the

EAD 230011-00-0106 for Road marking products. The characteristics of each system shall correspond to the respective values laid down in Tables 2.1 and 2.2 of this ETA, checked by IETcc.

Methods of verification and of assessing and judging are listed afterwards.

3.1.1. Mechanical resistance and stability (BWR 1)

Not relevant

3.1.2 Safety in case of fire (BWR 2)

Not relevant

3.1.3 Hygiene, health and environment (BWR 3)

Not relevant

3.1.4 Safety and accessibility in use (BWR 4)

For testing durability the manufacturer may choose either:

- method A: Road trial with an option according to EN 1824 (expressed as roll-over number) or/and
- method B: Wear simulator according to EN 13197 (expressed as traffic number).

For this ETA, the manufacturer has chosen for testing durability the method B “Wear simulator”. The option No Performance Assessed for method A “Road Trials” is used.

Table 2.1: Results for F-2001 Thermospray white basic 20 % – System 1

Basic Works Requirement: Safety in use									
Durability			Night and day visibility and skid resistance for each durability level						
Test method used	Number of roll-over x 10 ⁶		Night-time visibility			Day-time visibility			Skid resistance
			RL in mcd·m ⁻² ·lx ⁻¹ under conditions of			β luminance factor	Qd in mcd·m ⁻² ·lx ⁻¹	Chromaticity Co-ordinates CIE (x, y)	SRT Units
			dry	wetness	rain				
Method B wear simulator EN 13197	Initial	0.01	408	134	38	0.71	267	always inside white polygon (EN 1436)	58
	Retained	0.1	391	64	27	0.74	268		58
		0.2	359	50	17	0.74	274		55
		0.5	354	51	19	0.74	272		53
		1.0	300	55	22	0.75	263		50
		2.0	229	41	19	0.75	268		50
		4.0	213	42	22	0.75	264		48
General aspects in relation to the intended use									
Retroreflection		Alkali resistance			Bleeding resistance		Test plates roughness		
Type II		NPA			not applicable		0.8 mm		
Indentation		Colour			Softening point		ageing UV		
NPA		White			122 °C		Δβ = 0.01		

Table 2.1: Results for F-2001 Thermospray white basic 20 % – System 2

Basic Works Requirement: Safety in use									
Durability			Night and day visibility and skid resistance for each durability level						
Test method used	Number of roll-over x 10 ⁶		Night-time visibility			Day-time visibility			Skid resistance
			R _L in mcd·m ⁻² ·lx ⁻¹ under conditions of			β luminance factor	Q _d in mcd·m ⁻² ·lx ⁻¹	Chromaticity Co-ordinates CIE (x, y)	SRT Units
			dry	wetness	rain				
Method B wear simulator EN 13197	Initial	0.01	412	80	38	0.68	269	always inside white polygon (EN 1436)	56
	Retained	0.1	344	60	37	0.69	258		55
		0.2	349	63	35	0.69	265		55
		0.5	262	57	30	0.69	264		49
		1.0	230	61	29	0.69	264		48
		2.0	188	52	28	0.68	256		45
		4.0	176	42	28	0.65	252		45
General aspects in relation to the intended use									
Retroreflection		Alkali resistance			Bleeding resistance		Test plates roughness		
Type II		NPA			not applicable		0.8 mm		
Indentation		Colour			Softening point		ageing UV		
NPA		White			122 °C		Δβ = 0.01		

3.1.5 Protection against noise (BWR 5)

Not relevant

3.1.6 Energy economy and heat retention (BWR 6)

Not relevant

3.1.7 Sustainable use of natural resources (BWR 7)

Not relevant

3.2 Methods of verification

The assessment for the intended use was carried out according to the Basic Work Requirements (BWR). The characteristics of the components shall correspond to the respective values laid down in Tables 2.1 and 2.2 of this ETA, checked by IETcc.

3.2.1 Retroreflectivity in dry conditions (R_L): coefficient of retroreflected luminance R_L (or retroreflectivity), according to the applicable part of EN 1436.

3.2.2 Retroreflectivity in conditions of wetness (R_L): as coefficient of retroreflected luminance R_L (or retroreflectivity), according to the applicable part of EN 1436.

- 3.2.3 **Retroreflectivity in conditions of rain (R_L):** as coefficient of retroreflected luminance R_L (or retroreflectivity), according to the applicable part of EN 1436.
- 3.2.4 **Chromaticity co-ordinates (x, y):** as chromaticity co-ordinates CIE (x, y), according to the applicable part of EN 1436.
- 3.2.5 **Luminance Factor (β):** according to the applicable part of EN 1436.
- 3.2.6 **Luminance coefficient under diffuse illumination (Q_d):** according to the applicable part of EN 1436.
- 3.2.7 **Skid resistance (SRT):** according to the applicable part of EN 1436.
- 3.2.8 **Durability:** for this ETA, the manufacturer has chosen for testing durability the method B “Wear simulator” according to the specifications given in EN 13197. Test plates roughness: measured according to EN 13036-1 and the results expressed as the texture depth.
- 3.2.9 **Bleed resistance (only for paints):** Not applicable.
- 3.2.10 **Alkali resistance:** No Performance Assessed.
- 3.2.11 **Indentation (only for thermoplastics):** No Performance Assessed.
- 3.2.12 **Softening point (only for thermoplastics):** according to the applicable part of EN 1871.
- 3.2.13 **UVB ageing:** according to the applicable part of EN 1871.

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

4.1 System of assessment and verification of constancy of performance

According to the decision 96/579/EC of the European Commission¹, system 1 of assessment and verification of constancy of performance (see EC delegated regulation (EU) No 568/2014 amending Annex V to Regulation (EU) N° 305/2011) applies.

5. Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan which is deposited at IETcc².

For type testing, the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases, the necessary type testing has to be agreed between IETcc and the notified body.

Issued in Madrid on 2020 January 28th

By



Ángel Castillo
Director

on behalf of Instituto de Ciencias de la Construcción Eduardo Torroja

¹ Published in the Official Journal of the European Union (OJEU) L254 of 8.10.1996, p0052 -0055.
See www.new.eur-lex.europa.eu/oj/direct-access.html

² The Control Plan is a confidential part of the ETA and only handed over to the notified certification body involved in the assessment and verification of constancy of performance.