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SB3 ROADSPRAY

White thermoplastic with premix glass beads requiring drop-on glass beads to be used on traffic areas
Product to be used on asphalt surfaces

Termoplástico branco com pérolas de vidro incorporadas e projeção simultânea de pérolas de vidro para aplicação em áreas de tráfego
Produto para ser usado em pavimentos betuminosos

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Documento de Avaliação Europeu (EAD) n.º 230011-00-0106 Road Marking Products

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1. Technical description of the product

This European Technical Assessment applies to the road marking product SB3 RoadSpray. The product is a hot spray-applied thermoplastic (as defined in EN 1871:2020), of white colour, used for signalization purposes when it is applied on the road with drop-on glass beads. It is put on the market with indication on type and proportions of drop-on glass beads.

The manufacturer declared values for the physical and chemical characteristics for the product SB3 RoadSpray are presented in Table 1.

TABLE 1

Declared values for the product SB3 RoadSpray, according to EN 1871:2020 and EN 12802:2011

Características	Valores declarados
Luminance factor, β	≥ 0.80
Chromaticity co-ordinates (x,y)	White Within the polygon (x,y): (0.355; 0.355) (0.305; 0.305) (0.285; 0.325) (0.335; 0.375)
Softening point	≥ 95 °C
Density	2.00 (± 0.1) g/cm ³
Ash content	66 (± 3) %

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

This ETA concerns the product SB3 RoadSpray together with the drop-on materials, comprising certified glass beads, called "System 1", defined by the manufacturer in Table 2.

TABLE 2

Installation instructions of the SB3 RoadSpray – System 1

	Material identification and type of application	Dosages
Surface coating material	Trademark: SB3 RoadSpray Thermoplastic with premix glass beads, applied by spray with drop-on material	3 250 g/m ²
Drop-on material	Trademark: Echostar 20 TRM (Sovitec France SA S.) Drop-on glass beads with Certificate of Constancy of Performance: 1137-CPR-0494/81 (COPRO)	500 g/m ²

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

The SB3 RoadSpray - System 1:

- is intended to be used for white permanent road marking in trafficked areas without presence of traffic with studded tyres;
- is designed to give to the resulting road marking satisfactory day and night visibility and skid resistance properties at initial conditions and after 4 million rollovers;
- is a road marking of type II, according to EN 1436:2018, as it has special properties intended to enhance the retroreflection in wet and rainy conditions;

- is intended to be used (not applied) at a temperature range from – 40 °C to + 70 °C for outside uses and from + 5 °C to + 70 °C for indoor uses. In addition, the product presents satisfactory performance for UV ageing.

The substrates on which it has provided satisfactory performance are bituminous material with a maximum roughness of 0.90 mm (texture depth according to EN 13036-1:2010).

The provisions made in this European Technical Approval are based on an assumed working life of one year as minimum, according to EAD No. 230011-00-0106, provided that the conditions laid 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 products 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 manufacturer by the ETA holder or by the 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

Sampling, conditioning, testing and the assessment for the intended use of this road marking product according to the Basic Requirements were carried out in compliance with the European Assessment Document (EAD) No. 230011-00-0106 – Road Marking Products.

Table 3 presents the relevant performance of the product and the corresponding methods used in its assessment and is complemented with Table 4, with test results for durability of night and day visibility and of skid resistance of System 1.

TABLE 3
Performance of the product and methods used for its assessment

Basic Requirement	Essential characteristic		Assessment method (*)	Expression of product performance (requirements or values)
BWR 4 Safety and accessibility in use	Night visibility	Retroreflectivity (R_r)		
		in dry conditions		See Table 4
		in conditions of wetness	EN 1436	See Table 4
		in conditions of rain		See Table 4
	Day visibility	Chromaticity co-ordinates (x, y)	EN 1436	See Table 4
		Luminance		
		Luminance factor (β)		
		Luminance coefficient under diffuse illumination (Q_d)	EN 1436	See Table 4
		Skid resistance (SRT)	EN 1436	See Table 4
	Relating to durability	Number of roll-over (method A)	EN 1824	–
		Number of wheel passages (method B)	EN 13197	See Table 4
Relating to the nature of substrate	Bituminous	Luminance factor (β)		
		Chromaticity co-ordinates (x, y)	EN 1871	Not applicable
	Cement	Alkali resistance	EN 1871	Performance not assessed
	Relating to climatic conditions	Indentation		Performance not assessed
		Softening point	EN 1871	SP3: ≥ 95 °C
		UVB ageing		$\Delta\beta \leq 0.05$

(*) Assessment methods: EN 1436:2018, EN 13197:2011+A1:2014 and EN 1871:2020

TABLE 4

Test results for durability of night and day visibility and skid resistance of SB3 RoadSpray – System 1

Durability			Night and day visibility and skid resistance for each durability level					
Test method	Number of roll-over $\times 10^6$		Night-time visibility			Day-time visibility		Skid resistance
			R_L in $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$ under conditions of			β	Q_d in $\text{mcd}\cdot\text{m}^{-2}\cdot\text{lx}^{-1}$	(x,y)
			dry	wetness	rain			
EN 13197 Method B wear simulator ^(*)	Initial	0.01	367	56	29	0.738	251	48
		0.10	378	52	30	0.736	249	45
		0.20	377	46	26	0.730	246	45
	Retained	0.50	357	54	25	0.729	250	45
		1.00	341	62	31	0.732	246	45
		2.00	349	59	27	0.741	243	45
		3.00	350	58	25	0.717	235	46
		4.00	323	52	27	0.647	227	46
		Always inside white polygon (EN 1436:2018)						

(*) The roughness of the test plates was determined according to EN 13036-1:2010 and is within the class RG2 specified in EN 13197:2011+A1:2014 (> 0.60 mm and ≤ 0.90 mm).

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

According to the Decision 96/579/EC of the European Commission¹, amended by the Decision 99/453/EC², the system of assessment and verification of constancy of performance 1 applies.

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

5.1 General

The ETA is issued for the product on the basis of agreed data/information, deposited with LNEC (Laboratório Nacional de Engenharia Civil), which identifies the product that has been assessed and judged.

Changes to the product or production process should be notified to LNEC before the changes are introduced. LNEC will decide whether or not such changes affect the ETA and if so whether further assessment of the product or alterations to the ETA shall be necessary.

5.2 Tasks for the manufacturer

Factory production control

The manufacturer shall exercise permanent internal control of production. All elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed.

The production control system shall insure that the product is in conformity with this ETA.

The manufacturer may only use initial/raw/constituent materials (as relevant) stated in the Manufacturer's Technical Dossier.

The factory production control shall be in accordance with the "Control Plan"³ which is part of the Technical Documentation of this ETA. The control plan has been agreed between the manufacturer and LNEC and is laid down in the context of the factory production control system operated by the manufacturer and is deposited within LNEC. The results of the factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

¹ Published in the Official Journal of the European Union (OJEU) L254 of 8.10.1996, p. 0052-0055.

² Published in the Official Journal of the European Union (OJEU) L178 of 14.07.1999, p. 0050-0051.

³ The Control Plan is a confidential part of this ETA and is only handed over to the notified body (bodies) involved in the procedure of AVCP. See section 5.3.

Other tasks for the manufacturer

The manufacturer shall, on the basis of a contract, involve a product certification body (bodies) notified to carry out constancy of performance certification in order to undertake the respective actions. For this purpose, the Control Plan shall be handed over by the manufacturer to the notified body (bodies) involved.

For assessing the product, the results of the tests performed as part of the assessment for the ETA shall be used unless there are changes in the production line or plant. In such cases the necessary testing has to be agreed with LNEC.

The declaration of performance of the product, to be drawn up by the manufacturer following the issuing of the ETA, shall include its reference number and issuing date.

Changes to the product or its production process should be notified to LNEC before the changes are introduced. LNEC will decide whether or not such changes affect the ETA and if so whether further assessment or alterations to the ETA shall be necessary.

5.3 Tasks for the notified body (bodies)

Within the scope of the initial inspection of factory and of factory production control, the notified body (bodies) shall ascertain that, in accordance with the Control Plan, mentioned in 5.2, the factory (in particular the employees and the equipment) and the factory production control are suitable to ensure continuous and orderly manufacturing according to the specifications mentioned in this ETA.

Within the scope of continuous surveillance, assessment and evaluation of factory production control, the notified body (bodies) shall visit the factory at least once a year for surveillance. It has to be verified that the factory production control is maintained in suitable conditions.

These tasks shall be performed in accordance with the provisions laid down in the Control Plan.

The notified body (bodies) shall retain the essential points of its (their) actions referred above and state the results obtained and conclusions drawn in a written report.

The notified body involved by the manufacturer shall issue a certificate of conformity of the factory production control stating the conformity with the provisions of this ETA.

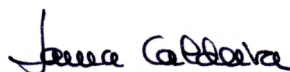
In cases where the provisions of the ETA and the Control Plan are no longer fulfilled, the notified body (bodies) shall withdraw the certificate of conformity and inform LNEC without delay.

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By

Laboratório Nacional de Engenharia Civil (LNEC)

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