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## European Technical Assessment

**ETA 10/0443  
of 16/07/2020**

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**

**CITYCRIL D BLANCO 3129**

White solvent based paint without premix glass beads, with or without drop-on materials to be used on trafficked areas.

**Product family to which the construction product belongs**

ROAD MARKING PRODUCTS

**Manufacturer**

RALVA, S.L.  
C/ Calahorra n.º 2  
28864 AJALVIR (Madrid – Spain)  
www.pinturasralva.com

**Manufacturing plant(s)**

RALVA, S.L.  
C/ Calahorra n.º 2  
28864 AJALVIR (Madrid – Spain)

**This European Technical Assessment contains**

7 pages

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

European Assessment Document (EAD)  
230011-00-0106  
ROAD MARKING PRODUCTS

**This version replaces**

ETA 10/0443 of 16/01/2019

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## Specific parts

### 1. Technical description of the product

**CITYCRIL D BLANCO 3129** is a road marking paint (as defined in EN 1871) used as a surface coating material for signalisation purposes when it is applied on the road with or without dropped-on materials. The paint is put on the market with indications on types and proportions of dropped-on materials.

Trademark: **CITYCRIL D BLANCO 3129**

Nature: Solvent based paint

Colour: White

Producer: RALVA, S.L.

Physical and chemical characteristics: see Table 1.1.

CHARACTERISTICS	DECLARED VALUE
Luminance factor	$\beta = 0.89$
Chromaticity co-ordinates (x, y)	Inside the white polygon
Hiding power	$r_c = 0.95$
Stability to storage	$\geq 4$
Ageing UV-B	$\Delta\beta \leq 0.05$
Bleeding resistance	$\Delta\beta \leq 0.05$
Alkali resistance	No deterioration of the surface

The product has to be considered as the basis of a family. It may be used in different combinations (proportions) 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:

**CITYCRIL D BLANCO 3129 – System 1** defined by the installation instructions given in Table 1.2.

Identification of materials and type of application		Dosage(s)
Surface coating material	Trademark: <b>CITYCRIL D BLANCO 3129</b> Paint without premix glass beads, applied by spray without drop-on material	720 g/m <sup>2</sup>

**CITYCRIL D BLANCO 3129 – System 2** defined by the installation instructions given in Table 1.3, together with the Certificate of Constancy of Performance of the drop-on materials.

Identification of materials and type of application		Dosage(s)
Surface coating material	Trademark: <b>CITYCRIL D BLANCO 3129</b> Paint without premix glass beads, applied by spray with drop-on material	720 g/m <sup>2</sup>
Drop-on materials	Trademark: glass-beads <b>EHOSTAR 5</b> Certificate of Constancy of Performance: <b>0099/CPR/A72/0001</b>	480 g/m <sup>2</sup>

**CITYCRIL D BLANCO 3129 – System 3** defined by the installation instructions given in Table 1.4, together with the Certificate of Constancy of Performance of the drop-on materials.

Table 1.4: Installation instructions of the <b>CITYCRIL D BLANCO 3129 – System 3</b>		
Identification of materials and type of application		Dosage(s)
Surface coating material	Trademark: <b>CITYCRIL D BLANCO 3129</b> Paint without premix glass beads, applied by spray with drop-on material	720 g/m <sup>2</sup>
Drop-on materials	Trademark: glass-beads <b>EHOSTAR 10</b> Certificate of Constancy of Performance: <b>0099/CPR/A72/0001</b>	480 g/m <sup>2</sup>

*NOTE: Other combination(s) than Systems 1, 2 and 3 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 EAD.**

### **2.1 CITYCRIL D BLANCO 3129, different systems**

#### **2.1.1 CITYCRIL D BLANCO 3129 – System 1**

- 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 visibility and skid resistance properties at initial and after 4 million roll-overs.
- The substrates on which it has provided satisfactory performances are bituminous asphalt and cement concrete 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 -40 °C to +70 °C for outside uses and from +5 °C to +70 °C for indoor uses. In addition, where relevant, the product has provided satisfactory performance for UV ageing.

#### **2.1.2 CITYCRIL D BLANCO 3129 – System 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 conditions and skid resistance properties at initial and after 4 million roll-overs.
- The substrates on which it has provided satisfactory performances are bituminous asphalt and cement concrete 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 -40 °C to +70 °C for outside uses and from +5 °C to +70 °C for indoor uses. In addition, where relevant, the product has provided satisfactory performance for UV ageing.

#### **2.1.3 CITYCRIL D BLANCO 3129 – System 3**

- 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 and wet conditions), and skid resistance properties at initial and after 4 million roll-overs.

- The substrates on which it has provided satisfactory performances are bituminous asphalt and cement concrete 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 -40 °C to +70 °C for outside uses and from +5 °C to +70 °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 respective values laid down in Tables 2.1, 2.2 and 2.3 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 CITYCRIL D BLANCO 3129 – 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 <sup>6</sup>		Night-time visibility			Day-time visibility			Skid resistance
			R <sub>L</sub> in mcd·m <sup>-2</sup> ·lx <sup>-1</sup> under conditions of			β luminance factor	Qd in mcd·m <sup>-2</sup> ·lx <sup>-1</sup>	Chromaticity Co-ordinates CIE (x, y)	SRT units
			dry	wetness	rain				
<b>Method B wear simulator EN 13197</b>	Initial	0.01	<b>NPA</b>	<b>NPA</b>	<b>NPA</b>	<b>0.85</b>	<b>301</b>	<b>always inside white polygon (EN 1436)</b>	<b>47</b>
	Retained	0.1	<b>NPA</b>	<b>NPA</b>	<b>NPA</b>	<b>0.81</b>	<b>294</b>		<b>46</b>
		0.2	<b>NPA</b>	<b>NPA</b>	<b>NPA</b>	<b>0.76</b>	<b>264</b>		<b>48</b>
		0.5	<b>NPA</b>	<b>NPA</b>	<b>NPA</b>	<b>0.70</b>	<b>223</b>		<b>54</b>
		1.0	<b>NPA</b>	<b>NPA</b>	<b>NPA</b>	<b>0.65</b>	<b>194</b>		<b>59</b>
		2.0	<b>NPA</b>	<b>NPA</b>	<b>NPA</b>	<b>0.54</b>	<b>150</b>		<b>59</b>
		4.0	<b>NPA</b>	<b>NPA</b>	<b>NPA</b>	<b>0.50</b>	<b>129</b>		<b>57</b>
General aspects in relation to the intended use									
Retroreflection		Alkali resistance			Bleeding resistance			Test plates roughness	
<b>No retro</b>		<b>PASS</b>			<b>Δβ = 0.01</b>			<b>0.8 mm</b>	
Indentation		Colour			Softening point			ageing UV	
<b>Not applicable</b>		<b>White</b>			<b>Not applicable</b>			<b>Δβ = 0.01</b>	

Table 2.2: Results for CITYCRIL D BLANCO 3129 – 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 <sup>6</sup>		Night-time visibility			Day-time visibility			Skid resistance
			R <sub>L</sub> in mcd·m <sup>-2</sup> ·lx <sup>-1</sup> under conditions of			β luminance factor	Qd in mcd·m <sup>-2</sup> ·lx <sup>-1</sup>	Chromaticity Co-ordinates CIE (x, y)	SRT units
			dry	wetness	rain				
<b>Method B wear simulator EN 13197</b>	Initial	0.01	<b>470</b>	<b>NPA</b>	<b>NPA</b>	<b>0.62</b>	<b>218</b>	<b>always inside white polygon (EN 1436)</b>	<b>47</b>
	Retained	0.1	<b>430</b>	<b>NPA</b>	<b>NPA</b>	<b>0.61</b>	<b>218</b>		<b>46</b>
		0.2	<b>403</b>	<b>NPA</b>	<b>NPA</b>	<b>0.61</b>	<b>214</b>		<b>45</b>
		0.5	<b>381</b>	<b>NPA</b>	<b>NPA</b>	<b>0.59</b>	<b>209</b>		<b>45</b>
		1.0	<b>375</b>	<b>NPA</b>	<b>NPA</b>	<b>0.58</b>	<b>211</b>		<b>45</b>
		2.0	<b>367</b>	<b>NPA</b>	<b>NPA</b>	<b>0.57</b>	<b>203</b>		<b>45</b>
		4.0	<b>303</b>	<b>NPA</b>	<b>NPA</b>	<b>0.53</b>	<b>182</b>		<b>45</b>
General aspects in relation to the intended use									
Retroreflection		Alkali resistance			Bleeding resistance			Test plates roughness	
<b>Type I</b>		<b>PASS</b>			<b>Δβ = 0.01</b>			<b>0.8 mm</b>	
Indentation		Colour			Softening point			ageing UV	
<b>Not applicable</b>		<b>White</b>			<b>Not applicable</b>			<b>Δβ = 0.01</b>	

Table 2.3: Results for CITYCRIL D BLANCO 3129 – System 3

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 <sup>6</sup>		Night-time visibility			Day-time visibility			Skid resistance
			R <sub>L</sub> in mcd·m <sup>-2</sup> ·lx <sup>-1</sup> under conditions of			β luminance factor	Q <sub>d</sub> in mcd·m <sup>-2</sup> ·lx <sup>-1</sup>	Chromaticity Co-ordinates CIE (x, y)	SRT units
			dry	wetness	rain				
<b>Method B wear simulator EN 13197</b>	Initial	0.01	<b>509</b>	<b>129</b>	<b>NPA</b>	<b>0.71</b>	<b>257</b>	always inside white polygon (EN 1436)	<b>48</b>
	Retained	0.1	<b>443</b>	<b>103</b>	<b>NPA</b>	<b>0.70</b>	<b>265</b>		<b>48</b>
		0.2	<b>415</b>	<b>70</b>	<b>NPA</b>	<b>0.69</b>	<b>258</b>		<b>48</b>
		0.5	<b>367</b>	<b>74</b>	<b>NPA</b>	<b>0.68</b>	<b>255</b>		<b>48</b>
		1.0	<b>284</b>	<b>56</b>	<b>NPA</b>	<b>0.66</b>	<b>245</b>		<b>47</b>
		2.0	<b>251</b>	<b>52</b>	<b>NPA</b>	<b>0.61</b>	<b>239</b>		<b>49</b>
		4.0	<b>190</b>	<b>35</b>	<b>NPA</b>	<b>0.61</b>	<b>221</b>		<b>50</b>
General aspects in relation to the intended use									
Retroreflection	Alkali resistance			Bleeding resistance			Test plates roughness		
<b>Type II</b>	<b>PASS</b>			$\Delta\beta = 0.01$			<b>0.8 mm</b>		
Indentation	Colour			Softening point			ageing UV		
<b>Not applicable</b>	<b>White</b>			<b>Not applicable</b>			$\Delta\beta = 0.01$		

### 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, 2.2 and 2.3 of this ETA, checked by IETcc.

**3.2.1 Retroreflectivity in dry conditions (R<sub>L</sub>):** as coefficient of retroreflected luminance R<sub>L</sub> (or retroreflectivity), according to the applicable part of EN 1436.

**3.2.2 Retroreflectivity in conditions of wetness (R<sub>L</sub>):** as coefficient of retroreflected luminance R<sub>L</sub> (or retroreflectivity), according to the applicable part of EN 1436.

- 3.2.3 **Retroreflectivity in conditions of rain ( $R_L$ ):** No Performance Assessed.
- 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 ( $\beta$ ):** 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):** according to the applicable part of EN 1871, as variation on the values for luminance factor ( $\beta$ ) and chromaticity co-ordinates.
- 3.2.10 **Alkali resistance:** according to the applicable part of EN 1871 and the result expressed as pass/fail.
- 3.2.11 **Indentation (only for thermoplastics):** Not applicable.
- 3.2.12 **Softening point (only for thermoplastics):** Not applicable.
- 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 Commission<sup>1</sup>, 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.

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<sup>1</sup> 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](http://www.new.eur-lex.europa.eu/oj/direct-access.html)

**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 IETcc<sup>2</sup>.

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 July 16

By



Director

on behalf of Instituto de Ciencias de la Construcción Eduardo Torroja (IETcc – CSIC)

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<sup>2</sup> 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.