

Series 285

POWDER COATING FOR RAILROAD CARS BASED ON POLYESTER
CERTIFIED ACC. TO DBS 918 340 (DEUTSCHE BAHN STANDARD)
FOR TECHNICAL INTERIOR AND EXTERIOR APPLICATIONS

Applications

- Railroad cars
- Technical application as per DBS 918 340
 - Interior and exterior application on aluminum
Product qualification no.11
 - Interior application on steel
Product qualification no.13
 - Exterior application on steel 2-coat with
TIGER Drylac® Series 271
Product qualification no.12
- Steel structures
- Traffic installations

Product details

Packaging	In original boxes of 20 kg
Density (ISO 8130-2)	1.2 - 1.7 g/cm ³ depending on the shade
Theoretical coverage	With 60 µm film thickness: 9.8 - 13.8 m ² /kg depending on density (see most recent edition of data sheet no. 1072)
Shelf life	Use before: see date on product label (18 months); dry below 25°C, protect against the influence of direct heat

Please note, in case of customer-specific blanket orders or storage agreements, which by their nature are stored for an extended period of time, the shelf life date is calculated from the date of the original production.

Surface

Surface	Gloss level*
smooth <i>gloss</i>	80 – 95
smooth <i>semi-gloss</i>	60 – 75
smooth <i>semi-matte</i>	40 – 60
smooth <i>matte</i>	20 – 35
fine texture <i>matte</i>	–

* Reflectometer value acc. to ISO 2813 / 60° angle (not applicable to metallic effect powder coatings). The measured gloss level of effect powder coatings can diverge from the details given in this product data sheet. The production of tolerance samples is urgently recommended.

Properties

- good weather resistance
- resistance to cleaning products as per DBS 918 340
- very good mechanical properties
- good storage stability

Pretreatment (alternatives)

The overview matrix below shows the common methods depending on different substrates. Please consider the suitability of the respective powder coating series for a desired application according to the guidelines of this data sheet.

	Alu-minum		Steel	
1)+2) Chromating	○	○		
2) Pre-anodization		○		
2) Chrome-free	○	○		
Iron phosphating			○	
Zinc phosphating			○	○
Blasting			○	○
	I	E	I	E ³⁾

Applications: I = interior; E = exterior

1. acc. to EN 12487
2. acc. to the GSB and QUALICOAT quality and testing provisions
3. for the 2-layer structure of TIGER series 270 / 271 / 272 / 273

Processing

Corona, modification for tribo processing* available on request.

Note regarding tribo processing

* Suitability for tribo processing must be verified on the coating line prior to actual application. In addition, please also consult the latest version of our metallic effect guidelines.

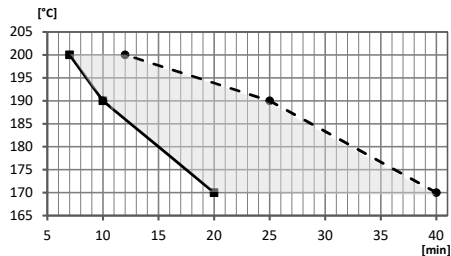
Note regarding fine textures

Verify the suitability and adhesion when using glues and screen printing.

Cure parameters

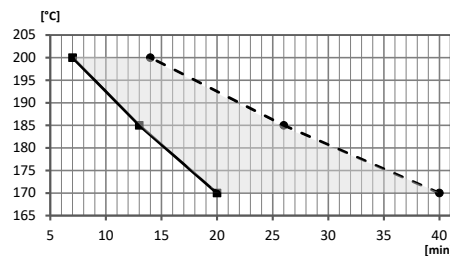
(Substrate temperature versus curing time)

smooth *gloss*



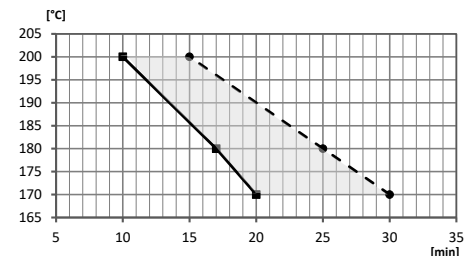
Substrate temp.	min. curing time	max. curing time
200°C	7 minutes	12 minutes
190°C	10 minutes	25 minutes
170°C	20 minutes	40 minutes

smooth *semi-gloss*



Substrate temp.	min. curing time	max. curing time
200°C	7 minutes	14 minutes
185°C	13 minutes	26 minutes
170°C	20 minutes	40 minutes

smooth *semi-matte* | smooth *matte* |
fine texture *matte*



Substrate temp.	min. curing time	max. curing time
200°C	10 minutes	15 minutes
185°C	17 minutes	25 minutes
170°C	20 minutes	30 minutes

The curing curves must be observed.

Test results

Tested under lab conditions on 0.8 mm thick, chrome-free pretreated aluminum panels (EN AW-5005 | Nabutan 310) and zinc-phosphated steel plates (DC01 | Gardobond 26S/6800/OC). Cured according to the corresponding cure parameters. Actual product performance may vary due to product-specific properties such as gloss level, color, effect and finish as well as application- related and environmental influences.

Test method	Test	Series 285 Smooth	Series 285 Fine texture
ISO 2360	Film thickness recommended	60-80 µm	70-90 µm
ISO 2409	Crosscut test / adhesion 1 mm cutting distance	0	
ISO 1519	Mandrel bend test Cracking of coating	≤ 8 mm Not permitted	
ISO 1520	Cupping test Cracking of coating	≥ 6 mm Not permitted	
ISO 6272-1	Direct impact test on the coating Cracking of coating	25 cm/1 kg Not permitted	
ISO 9227	Corrosion resistance – acetic salt spray test Aluminum AASS 1000h	Creep at score ≤ 1 mm	
	Corrosion resistance – neutral salt spray test Steel NSS 1000h	Creep at score ≤ 1 mm	
ISO 6270-2 (CH)	Determination of resistance to humidity (continuous condensation) 1000 h	No blistering / formation of rust	
ISO 16474-2	Accelerated weathering test Xenon arc radiation 1000 h flatbed	Residual gloss ≥ 50%	
EN 45545-2	Fire protection in railroad cars Requirements for fire behavior of materials and components	Hazard level: HL1 / HL2 / HL3 Requirement sets 1-coat: R1 / R2 / R3 / R6 / R7 / R8 / R17 Requirement sets 2-coat: R1 / R2 / R3 / R7 / R8 / R17	

Note

Effect and color differences between laboratory sampling and actual production are to be expected.

Processing instructions

The guidelines for application (data sheet 1213) must be strictly observed. The latest versions of the data sheets, technical information sheets and guidelines for application are available for download at www.tiger-coatings.com.

Chemical resistance

The required chemical resistance of a powder coating depends on the product and therefore is best decided in consultation with the parties to the contract before the planning phase depending on the application and the known contaminants. Agreement is particularly important with regard to the requirements and the test method, which can be based on EN ISO 2812-1 "Coating materials - Determination of resistance to liquids". The test and exposure time as well as the concentration of contaminants must also be defined.

Disclaimer

Our verbal and written recommendations for the use of our products are based upon experience to the best of our knowledge in accordance with present technological standards. These are given in order to support the buyer or user. They are non-binding and do not constitute any contractual legal relationship or additional obligation from the purchase agreement. They do not release the purchaser from verifying the suitability of our products for the intended application at his own responsibility. We warrant that our products are free of flaws and defects to the extent as stipulated in our terms of delivery and payment.

As part of our duty to inform, we modify our product information periodically according to technical progress. Therefore, please visit the download area of www.tiger-coatings.com to make sure you have the most current version of this product data sheet. TIGER Coatings GmbH & Co. KG reserves the right to make changes to the product data sheet without written notification.

This product data sheet replaces any and all previous product data sheets on this subject matter and is only intended to give a general product overview. Please request the respective product data sheet if using a product outside of our standard product range according to the standard product list (latest version).

The latest versions of the technical information sheets and the terms of delivery and payment, available for download at www.tiger-coatings.com, form an integral part of this product data sheet.

certified according to
EN ISO 9001 / 14001
IATF 16949



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