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IBAPIPE_FP61

Technical Data Sheet

Description

IBAPIPE_FP61 is a fast curing thermosetting powder coating based on especial epoxy resins and hardeners, formulated to meet the requirements of specifications related to external protection of underground and deep sea pipelines designed for the transport of crude oil, natural gas, refined oil derivatives, as well as any fluid at temperatures between –20 and +120°C.

Characteristics

One coat finishes
Less waste and pollution to the environment
Suitable hot melt adhesives with optimal adhesion
Exceptionally fast cure
Low energy requirement for application
Exceptionally tough film
Excellent corrosion resistance
Application at high rate as it is highly reactive
Especially green, grey, red

Applications

Pipelines designed for the transport of crude oil, natural gas, refined oil derivatives, as well as any fluid at temperatures between –20 and +120°C.

Product Properties

UV Resistance	Not recommended for exterior use. However, the chalking phenomenon does not remove more than 2-3 microns of coating per year permanent exposure which does not affect the anticorrosion properties of the coating
Surface	Gloss GL – Semigloss HR
Specific gravity	1.5-1.8 gr/cm3 (low with dark colours, high with light colours)
Shelf Life	6 months (< 30°C and < 50% RH)

Application Data

Application	Corona (Can be applied by tribo guns if product code has "T" for the 6th character)
Curing heat	IBAPIPE_FP61 series are being applied on preheated substrates (235 ±5 °C) and cure by residual

Metal Temperature (oC)	Time (minutes)
235	4

Film Thickness	300-700µ for one layer system (recommended) For 1000-3000 µm applications, conveyor speed and gun settings should be arrange.

Theoretical cons. 1.2-1.5 m^2/kg. Practical spreading rates will vary due to such factors as method and conditions of application, specific gravity, surface profile and texture.

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Coating Properties

Test results shown below are based on 0.5 mm steel with 60µ applied powder coatings.

Direct Impact	50 kgcm at -40°C	(ISO 6272-2)
	50 kgcm at 0°C	
	120 kgcm at 23°C	
Reverse Impact	50 kgcm at -40°C	(ISO 6272-2)
	50 kgcm at 0°C	
	120 kgcm at 23°C	
Buchholz Hardness	102-105	(ISO 2815)
Cross Hatch Adhesion	Gt:0	(ISO 2409)
Flexibility	6 % elongation 20°C	
	1.5 % elongation –40°C	
Porosity	none (holiday detector 5 V/µm)	
Water absorption	<3 % (80°C; 200 hours)	
Contact Electrical Resist	108 ohm.m^2 (after 100 days In NaCl 3% solution at 80 oC)	
Boiling water test	Gt=0 after (20 hours boiling, 4 hours in air; 20 cycles)	
Cathodic Disbonding	R=3 mm (-1.5 volt; 28 days)	
Water immersion	Gt=0 (50°C; 28 days)	
Abrasion resistance	less than 0.10 gr. in 1000 cycles (CS17 wheel, 1000g load)	

Application Guide

Surface Preparation

Surface preparation	grit blasting Sa 2 ½ with a peak/trough profile of 40 to 80 µm
Preheating temperature	235±5°C

IBAPIPE_FP61 should be applied on the same day as surface is prepared and as soon after the cleaning as practical because blast-cleaned surfaces may start to rust quickly.

Application Procedure and Equipment

IBAPIPE_FP61 series powder coatings charging properties are optimized when powder is free-flowing and moisture-free. Aged or compacted powder may require pre-conditioning for several minutes to fluidise evenly.

If storage room temperature is lower than the application area, powder coatings, which are hygroscopic, should be acclimated in unopened containers prior to adding into the spray hopper. For optimum performance, It should be applied and stored at air-conditioning area. Storage temperatures should be kept below 30°C.

Since IBAPIPE_FP61 is highly reactive, it is strongly recommended not to exceed 30°C storage temperature.

Powder should not be stored in hoppers for long periods of time. If moisture condensation occurs, fluidize powder to dry-out or replace moisture-laden powder with virgin powder.

Powder coatings are finely ground particulates. Respirators or dust masks should be used by workers exposed to powder in order to avoid dust inhalation.

Compressed air to the gun must be oil and moisture free.

Silicone should not be used in application area.

For box feeders, ensure probe is fully inserted in powder and operated as per manufacturer's recommendations.

Contact points should be maintained to ensure metal-to-metal ground.

Apply by electrostatic spray. Relative humidity should be 50-60% for corona system, lower than 40% for tribo system.

IBAPIPE_FP61 is applied to substrates preheated to 235 °C ±5. The minimum advised coating thickness of IBAPIPE_FP61 are 300µm.

Reclaim-to-virgin ratios should be carefully monitored to maintain spray consistency.

Sieving powder before adding to hopper eliminates potential clumping or foreign matter.

Test for cure of the coating by impact test.

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Care and Maintenance

IBAPIPE_FP61 is a chemically resistant, hard wearing coating, most often used in areas where aesthetics are not important. Unlike common decorative coatings, no formal cleaning program is required.
However it is better to remove salts and other pollutant deposits where possible, and repair any exposed metal surfaces with appropriate repair kit.

Health and Safety

The SDS is an integral part of using this product as it contains information on the potential health effect of exposure, personal protective equipment needed. It is recommended to contact to Sales and Customer Service Offices for further information.

Precautions and Limitations

As a result of possible wide application variations and stoving conditions, IBAPIPE_FP61 may show variation, between İBA Kimya Powder Coatings prepared samples and production applied material. Therefore, it is the applicator and/or their customer's responsibility to ensure the product conforms to their requirements.
For optimum corrosion performance ensures recommended dry film thickness is obtained.
Not recommended for exterior applications.

Transport and Storage

Packaging	15-20 kgs. Heavy polyethylene bag in a corrugated carton
Shipment	Not dangerous goods. No special transport requirements.
Storage Conditions	Storage temperatures should be kept below 30°C and 50% relative humidity. Powder should be stored in closed containers. Since IBAPIPE_FP61 is highly reactive, it is strongly recommended not to exceed 30°C storage temperature.

DISCLAIMER: All the information provided in this data sheet depends on our knowledge and experience up to date and may be subject to revision as new technology and experience evolve. Since the conditions of application may vary depending on the substrate, physical conditions and other variables, users should conduct necessary tests to determine the conformity of the product for its intended use. We do not accept liability since the application, use and processing of the products take place beyond our control and supervision. Moreover, our liability for breach of warranty is exclusively limited to replacement of the product or refund of its price and we are not liable for incidental, indirect or consequential damages under any circumstances.