İBA KİMYA SAN. ve TİC. A.Ş.
1. Organize Sanayi Bölgesi
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IBASHIELD – ZINC RICH

Technical Data Sheet

Description

IBASHIELD - Zinc Rich primer powder coatings are zinc rich epoxy based thermosetting sacrifial powder coatings designed to enhance the corrosion resistance of steel items. Sacrificial coatings contain certain elements, such as zinc, which oxidize sacrificially to ensure that the substrate remains corrosion free. Sacrificial coatings essentially fool the rust into eating away at the coating instead of the metal layers beneath.
IBASHIELD - Zinc Rich primer powder coatings have been designed as an undercoat for powder topcoats such as PE55, PE58, PS70, PS77... or any other topcoat and for more corrosive environments as an undercoat for other base coats.

Series: EE20AC7776898GLX and EE20AC7777198GLX Zinc Primer
NOTE: EE20AC7776898GLX has lower zinc content. It can be preferred for applications where lower corrosion resistance is sufficient with lower cost.

Characteristics

Series: EE20AC7776898GLX and EE20AC7777198GLX Zinc Primer
Excellent corrosion resistance
Increasing service life
No solvents or emissions
Less waste and pollution to the environment
Good chemical resistance
Excellent corrosion protection

Applications

Gas cylinders and tanks
Agricultural machinery
Street and garden furniture
Valves
IBASHIELD - Zinc Rich primer powder coatings have a multitude of uses over a steel objects. If chemical treatment is difficult, a zinc-rich powder primer provides the solution on shot blasted steel.

Product Properties

UV Resistance	Not recommended for exterior use. It contains an epoxy component which will chalk on exterior exposure. Can be used for exterior applications, if any outdoor durable topcoat is applied.
Color	Zinc Grey
Surface	Gloss GL
Specific gravity	2.0-2.2 gr/cm3
Shelf Life	6 months (< 30°C and < 50% RH)

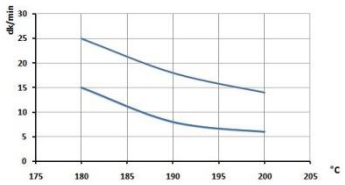
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Application Data

Application Corona (Can be applied by tribo guns if product code has "T" for the 6th character)
Curing 190°C 10 minutes recommended

Metal Temperature (°C)	Time (minutes)
180	15-25
190	8-18
200	6-14



Film Thickness 40-50µ (recommended)
Theoretical cons. 0-12 m^2/kg. Practical spreading rates will vary due to such factors as method and conditions of application, specific gravity, surface profile and texture.

Coating Properties

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

Direct Impact	>5 kgcm	(ISO 6272-2)
Reverse Impact	>5 kgcm	(ISO 6272-2)
Buchholz Hardness	>90	(ISO 2815)
Conical Mandrel	<5 mm	(ISO 6860)
Cross Hatch Adhesion	Gt:0	(ISO 2409)

Application Guide

Surface Preparation
All surfaces should be degreased and pre-treated for optimal performance.
Application recommendations due to corrosivity categories are given in "Product Specification Sheet" for IBASHIELD - Zinc Rich primer powder coatings.

Application Procedure and Equipment
IBASHIELD - Zinc Rich primer powder coatings charging properties are optimized when powder is free-flowing and moisture-free. Aged or compacted powder may require preconditioning 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.
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. IBASHIELD - Zinc Rich primer powder coatings have a higher than average specific gravity, box feeders will need to be tested to make sure an adequate transfer of powder can be achieved.
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.
It is recommended that IBASHIELD - Zinc Rich primer powder coatings be top coated within 12 hours due to a possible moisture uptake of the coating.

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If top coat applied within 12 hours. Partially cure for 3 - 5 minutes at 190°C metal temperature. Use top coat cure schedule to complete cure of IBASHIELD - Zinc Rich primer powder coatings.
If top coat applied after 12 hours. Full cure for 10 minutes at 190°C metal temperature. Avoid over cure as this will inhibit intercoat adhesion with top coat. Store in clean, dry environment until the next stage the condition of storage between coats has direct effect on adhesion.
If no top coat to be applied. Full cure for 10 minutes at 190°C metal temperature.
Reclaim-to-virgin ratios should be carefully monitored to maintain spray consistency.
Sieving powder before adding to hopper eliminates potential clumping or foreign matter.

Atmospheric Corrosivity Categories and Examples of Typical Environments (BS EN ISO 12944-2)

Environments causing corrosion can be classified in different categories according to their corrosivity.

Corrosivity Category and Risk	Examples of typical environments in a temperate climate (informative only)	
	Exterior	Interior
C1 very low	-	Heated buildings with clean atmospheres, e.g. offices, shops, schools, hotels
C2 low	Atmospheres with low level of pollution Mostly rural areas	Unheated buildings where condensation may occur, e.g. depots, sports halls
C3 medium	Urban and industrial atmospheres, moderate sulphur dioxide pollution Coastal area with low salinity	Production rooms with high humidity and some air pollution e.g. food-processing plants, laundries, breweries, dairies
C4 high	Industrial areas and coastal areas with moderate salinity	Chemical plants, swimming pools, coastal, ship and boatyards
C5-I very high (industrial)	Industrial areas with high humidity and aggressive atmosphere	Buildings or areas with almost permanent condensation and high pollution
C5-M very high (marine)	Coastal and offshore areas with high salinity	Buildings or areas with almost permanent condensation and high pollution

Zinc Free IbaShield Selection Guide

Notes:
(1) For C5-I and C5-M environments, we kindly request to consult İba Kimya for specially formulated products for specific demands.
(2) Coating should be applied on abrasive blasted steel immiediately to prevent oxidation.
(3) For C3, C4, C5-I and C5-M environments, for İba Kimya "X" and "B" coded metallic effect top coats, Iba Kimya Clear coats are recommended as final top coat.

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Corrosivity Category	Protection Time	Examples of environments	Salt Spray Test	Pretreatment + IBASHIELD – Zinc Rich
C2, low		Rural areas with low pollution		-
C3, medium	2-5 years 5-15 yrs > 15 yrs	Moderately polluted urban / industrial areas	120 hrs 240 hrs 480 hrs	Sandblasting Sandblasting+7776 Sandblasting+7776
C4, high	2-5 yrs 5-15 yrs > 15 yrs	Industry, tunnel, traffic ports	240 hrs 480 hrs 720 hrs	Sandblasting+7776 Sandblasting+7776 Sandblasting+7777
C5-I very high (industrial)	2-5 yrs 5-15 yrs > 15 yrs	Industrial areas with high humidity and aggressive atmosphere	480 hrs 720 hrs 1440 hrs	Sandblasting+7776 Sandblasting+7777 Sandblasting+7777+EE20
C5-M very high (marine)	2-5 yrs 5-15 yrs > 15 yrs	Coastal areas with high salinity	480 hrs 720 hrs 1440 hrs	Sandblasting+7776 Sandblasting+7777 Sandblasting+7777+EE20

Care and Maintenance

IBASHIELD - Zinc Rich primer powder coatings are hard wearing coatings, 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.
Powder-in-air concentrations of greater than 20 gr/m^3 to 70 gr/m^3 can be ignited by flame or strong electrical discharge. Powder concentrations below 20 gr/m^3 or above 70 gr/m^3 are too sparse or too dense to support flame or combustion. Properly engineered application equipment is designed to keep powder-in-air concentrations well below this range. All equipment should be inspected periodically for proper operation and electrical ground. Hangers, hooks, racking system, and conveyor should be cleaned to eliminate powder build-up. Eliminate all sources of ignition.

Precautions and Limitations

As a result of possible wide application variations and stoving conditions, IBASHIELD - Zinc Rich primer powder coatings 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. (unless an outdoor topcoat is applied)
Over baking may result in intercoat adhesion problems. For optimal intercoat adhesion refer the cure details in the "application guide" section of this data sheet.

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Transport and Storage

Packaging	25 kgs. Heavy polyethylene bag in a corrugated carton
Flashpoint	Powder-in-air concentrations of greater than 20 gr/m^3 to 70 gr/m^3
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.

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.