Technical Data Sheet

BUMI COAT

Product Description

Bumi Coat is a two-component, solvent based, glass-ceramic composite coating. It is resistant to low temperature of -20ºC and high temperature resistance up to 1000ºC continuously, if the substrates permit. The coating can be used as both primer and finish coat.

Suitable for steel surfaces such as carbon steel and stainless steel, in addition to ceramic substrates. All applications are advised to adhere to the Application Guide. Application can be performed on hot substrates up to 70ºC

Area of Application

The product is designed to prevent corrosion on insulated and non-insulated substrates. Corrosion Under Insulation (CUI) can be prevented. The ability of the coating to withstand high temperature makes it suitable for Chimney & Ducting (external), Boilers, High Temperature Induced Draft (ID) Fans, Thermal Power Plant, Petrochemical Industries, High Temperature Reactors, Heat Exchangers etc.

With heat induced curing, the coating will become abrasion resistant, making it appropriate for Chimney & ducting (internal), Ash Conveyors, Boiler Drums, External Steam Valves and Fittings. Cured Bumi Coat can be applied in a continuously submerged environment such as water and oil tanks to prevent corrosion and substrate erosion.

Colours

Grey with matte finish.

Product Description

PROPERTY	DESCRIPTION	TEST / STANDARDS
Density	1.8 – 1.9 kg/l	ASTM D5201
Viscosity	Thixotropic Thick Liquid	Calculated
Solid by weight	70 ± 2 %	ASTM D2369
VOC	230gms/kg	ASTM D3960
Flash Point	25 ºC	ASTM D3278
Adhesive Strength	900 psi	ASTM D3359
Salt Spray Resistance	> 2000 hours	ASTM B117

The provided data is typical for factory production, subject to slight variation.

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Film Thickness percoat

Typical Recommended Coating Thickness

Wet film thickness (WFT): 150–200microns
Dry film thickness (DFT) : 120–150microns
Theoretical coverage : 4.0 m²/kg

2 coats can be applied with maximum of 200 microns WFT for each coat. A minimum of 24 hours of curing at room temperature is needed in between the first and second coat. *Please refer to the "Drying and Curing time" section.*

Surface preparation

For better adhesion, all surfaces shall be clean, dry, and free from any contamination

Surface preparation summary table

Substrate	Surface Preparation	
	Minimum	Recommended
Carbon Steel	St 2 (ISO 8501-1)	Sa 2.5 (ISO 8501-1)
Stainless Steel	The substrate shall be mechanically prepared to form scratch patterns, and all forms of polish removed.	Blast Cleaning with non-metallic abrasive media to achieve sharp and angular surface profile and to remove all forms of polish
Ceramic Substrate	Clean and dry surface	Clean and dry surface
Coated Surfaces	Clean, dry and undamaged compatible coating	Clean, dry and undamaged compatible coating

Application

Application Method

BUMI COAT can be applied using 2 methods

Spray : Use Airless spray or Air Paint Sprayer / High Volume – Low Pressure (HVLP).
Brush : Recommended for smaller areas. Care must be taken to achieve required Dry Film Thickness (DFT)

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Product Mixing Ratio

	DENSITY	PARTS BY WEIGHT	PARTS BY VOLUME
BUMI COAT PART A	1.8 Kg/L	100	100
BUMI COAT PART B	1.02 Kg/L	2	3.6
EXAMPLE		*A=1KG, B=20g*	*A=1L, B=36ml*

Induction Time : 30 minutes at 25 – 40ºC

Thinner

Thinner : Xylene

Thinning is important to achieve the best spraying properties. It is recommended to thin the product by 5% (in volume ratio). Addition of thinner beyond the recommended percentage may cause sagging.

Conditions for application

Substrate Temperature : 10 - 70ºC
Relative humidity : Below 85%

Air Paint Sprayer / High Volume – Low Pressure (HVLP) Guide

Nozzle Tip : 4 – 5 mm
Pressure at nozzle (minimum): 7 bar/101 psi

Airless Spray Guide

Nozzle Tip : 4 – 5 mm
Pressure at nozzle (minimum): 150 bar/2200 psi

Drying and Curing time

Drying

	Substrate Temperature		
	10ºC	**25ºC**	**40º C**
Surface touch dry	10 h	2 h	1 h
Walk-on-dry	24 h	8 h	5 h
Dry to over coat (minimum)	24 h	8 h	5 h
Dried / cured for service	10 d	48 h	12 h

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Surface touch dry	:	The state of drying when slight pressure with a finger does not leave an imprint of reveal tackiness.
Walk-on-dry	:	Minimum time before the coating can tolerate normal foot traffic without permanent marks, imprints or other physical damage.
Dry to over coat	:	The recommended shortest time before the next coat can be applied.
Dried / cured for service	:	Minimum time before the coating can be permanently exposed to the intended environment.

Curing

Abrasion resistance of the product can be realized with heat induced (direct or indirect) curing. Curing is an additional non-compulsory process.

Direct / Indirect Heat			
50ºC	**100º C**	**150º C**	**200º C**
12 h	8 h	2 h	1 h

Curing is resulted by substrates' natural operating temperature or by other heating element such as heating torch, burner and oven.
Drying and curing times are determined under controlled temperatures and relative humidity below 85% and at average DFT of the product.

Pot Life

Pot Life at ambient temperature : 12 hours

Heat Resistance

	Continuous	Peak
Ceramic	1000ºC	NA
Carbon Steel / Stainless Steel	700ºC	800ºC

The temperature stated reflects the retention of protective properties. Aesthetic properties may suffer at these temperatures.

Packaging

	WEIGHT (KG)
BUMI COAT PART A	5.0 KG
BUMI COAT PART B	0.1 KG

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Storage

Keep the containers in a dry, cool, well ventilated place and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care

Shelf life at 25 ºC

BUMI COAT PART A	12 months
BUMI COAT PART B	24 months

Storage temperature must not exceed 40 ºC.

Health and Safety

Use under well ventilated conditions. Do not inhale spray mist. Avoid skin contact. Spillage on the skin should immediately be removed with suitable cleanser, soap and water. Eyes should be well flushed with water and medical attention provided immediately.

Colour Variation

Colour retention may vary depending on exposure, environment such as temperature, UV intensity etc., and application quality. Product may fade and chalk when exposed to sunlight and weathering.

Disclaimer

The information provided in this document is given to the best of MBESB's knowledge, based on laboratory testing and practical experience. However, the condition of which the product may be used is beyond MBESB's control. Users should always consult MBESB for general suitability of this product for their needs and specific application practices.

Technical Data Sheet (TDS) must be read in conjunction with The Application Guide (AG) and Safety Data Sheet (SDS)

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