



XIOMTEK 765

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Description:

All purpose zinc rich bond coat powder for on site thermal spray applications. Comprising a patent pending combination of zinc/epoxy and co-polyamide powders. XT 765 bonds to steel chemically (covalent bonding) and mechanically by gripping deep into surface micro pores as it flows and wets to form a zinc rich primer coating. This bond coating is designed primarily for adhesion to steel and accepts top coats from the XT 500 series and XT600 series polymer coatings because its chemistry allows for chemical bonding with these thermal sprayed top coatings. A bond coating 0.004 in to 0.006 in. thick delivers two to three times more active zinc to the steel substrate compared to commercial wet zinc primers.

XT 765 replaces fuse bond epoxies, two component liquid epoxies urethanes and other zinc rich liquid primers currently used for corrosion control of steel and for subsequent application of functional top coatings.

Application Data:

Surface preparation

Prior to spraying all surfaces should be degreased, roughening and preheated. Grit blasting at 0.3 Mpa (40 psi) using fine steel or alumina grit (0.2 to 0.5 mm) is recommended. See XIOM's Thermal Spray Manual for surface treatment guide lines for the many different substrates.

Thermal spraying

Refer to XIOM's Thermal Spray Manual for detailed processing guidelines. Preheat when practical to 100F to 200F and hold the substrate at the preheat temp while indexing to effect plastic stream melting (wetting) on impact. Apply the first pass making sure the coating melts flows and appears wet. Apply a second pass less hot so coating appears dull gray. Top coatings should be applied immediately after XT 765 is sprayed. A delay of days perhaps weeks is possible but immediate top coating is preferred. Spraying may be done at the shop or on-site.

Technical Specifications:

Typical Powder Information	Grey
Coverage (90% efficiency)	55 to 60 sq ft/ lb. / mil
Particle size	90% less than 53 um
VOC content	None
Thickness (recommended minimum)	4 to 6 mils as bond coating, up to 20 mils if needed.
Storage stability	Unlimited shelf life if stored < 90 ⁰ F

Coating Performance Properties:

Performance Properties	Testing Method	Results
Specific gravity	Calculated	2.9 – 3.0 g/cc
Adhesion	Bend test	Outstanding. Resists 180 degree bend with little cracking and no chipping both alone and with 0.010" of top coating. Top coating does not separate from bond coat.
Impact resistance (direct)	--	Very good
Flexibility	--	Outstanding
UV resistance	--	NA
Tensile strength (PSI) (Instron) yield	ASTM D 638	NA
Salt spray resistance		Excellent
Humidity resistance		Excellent
Melt point and service temperature		230F (110 C). Continuous service temperature not to exceed 180F (82.2).
Flammability	FMVSS 302 09-98	DNI. Does not support combustion during or after ignition.

Material Spray Parameters:

Material	765	Use Fan Nozzle (to avoid stripping)
Spray Parameters		
	PSI	Flow
Main Air	75	-

Vibrator Air	12.5	-
Fluidizing Air	5	45
Material Feed Rate	5- 7.5	6-8 (2 nd line from bottom)
Material Delivery	30	55
Gun Air	50	200+
Oxygen	55	25
Propane	50	8

Comments:

XT 765 is patent pending and unique to the powder coating industry. Specially formulated for thermal spraying, this patent pending powder is designed to deliver zinc metal to steel substrates in a bond coating with very high deposit efficiency and very strong substrate adhesion plus easy wetting and flow, thus forming continuous impermeable coatings. The epoxy / co-polyamide constituents in the bond coating make its surface ideal for bonding to functioning top coats from the XT 500 and XT600 series powder coatings.

Top coatings should be sprayed immediately after the bond coat is applied as this provides the best adhesion to top coats. The bond coat remains soft for about two hours after spray and during this time sprayed top coats develop the strongest bond.

Coating Characteristics:

- Outstanding flexibility between freezing and 175F (80C).
- Low moisture absorption therefore it is recommended for immersion applications.
- Tough and adherent coatings.
- High impact, wear resistance.

Recommended on-site applications include:

- Bond coating and zinc rich primer for steel substrates before applying functioning top coats from the XT500 and XT600 series
- Applicable to both interior and exterior structures

Health and Safety:

XIOMTEK 765 is supplied as a finely divided powder. While there are no known health hazards associated with this powder, normal handling precautions for dealing with fine organic powders should be taken, i.e., excessive dust generation and inhaling of the powder should be avoided. Always wear a proper dust mask and adjust facilities for removing excess dust from the working area during handling.

It should be appreciated that the information given here is, to the best of our knowledge, true and accurate. However, since conditions under which our materials and equipment may be used are beyond our control, recommendations are made without warranty or guarantee.

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 For ordering information, please contact your regional distributor.