



# XIOM 315

**Description:** Proprietary multiplex powder comprising aluminum oxide plus ethylene copolymers and FEP fluoropolymer. Specially designed for thermal spraying, coatings are multiphase having a continuous cured non-stick plastic matrix with aluminum oxide particles dispersed throughout for wear resistance and traction. Coatings bond easily, flow and wet to form continuous cured films.

**Application Data:** Surface preparation  
Refer to the Coatings Manual for proper substrate preparation. Each substrate material, i.e. steel, aluminum, masonry, fiberglass, wood, tile, plastics etc. requires special considerations before spraying.

Typically, prior to spraying all substrates should be cleaned and degreased. Some roughening is advisable for thick coatings. Liquid primers are not required.

Thermal spraying  
Refer to XIOM's Thermal Spray Manual for detailed processing guidelines. Before spraying, the surface to be coated should be heated to approximately 180°F. The spray torch or other heating device can be used.

Begin spray immediately; the surface temperature will rise to 200°F plus during spray as the plastic stream melts (wets) on impact forming a continuous cured film. No bond coating is needed when this procedure is followed.

Spraying may be done at the shop or on-site.

<b>Technical Specifications:</b>	Typical powder information	Black and white powder sized for thermal spray
	Coverage	40 to 50 sq-ft/ lb. / mil
	Particle size	90% less than 53 um
	VOC content	None
	Thickness (recommended)	3 to 10 mils
	Storage stability	Unlimited shelf life if stored < 90° F

Coating Properties	Testing Method	Results
Specific gravity	Calculated	2.25- 2.70 g/cc
Adhesion		Outstanding
Hardness (Shore D)	ASTM D 2240	50 plus, could be higher because of aluminum oxide dispersion
Impact resistance (direct)	-	Very good
Flexibility	-	Outstanding
UV resistance	-	Excellent
Tensile, PSI (Instron) yield		> 3000 PSI
Salt spray resistance		Excellent
Humidity resistance		Excellent
Service temperature		275 to 325 F ( 135 to 163°C)

**Material Spray Parameters:**

<b>Material</b>	315	
<b>Spray Parameters</b>		
	PSI	Flow
Main Air	75	-
Vibrator Air	15	-
Fluidizing Air	7	40-45
Material Feed Rate	7.5	8 - 10

Material Delivery	30	60
Gun Air	40 - 50	200+
Oxygen	55	25
Propane	50	8

**Comments:**

The multiplex technology in Xiom 315 is unique to the powder coating industry. Specially formulated for thermal spraying, this hybrid powder was designed to achieve high deposit efficiency, very strong substrate adhesion without primers and synergistic interparticle cohesion forming continuous impermeable coatings.

The broad dispersion of aluminum oxide particles imparts excellent wear resistance and or traction. For variations in traction the oxide type and particle size is varied to effect surface roughness.

The plastic matrix provides release and non-stick properties. For best non-stick and release properties use post spray treatment with Xiom 25post spray treatment.

**Coating Characteristics:**

- Excellent non-stick and release properties with good sliding wear resistance up to 300F ( 149C ).
- Outstanding flexibility.
- Very high elastic memory.
- Excellent mechanical properties with sound chemical resistance.
- Low moisture absorption.
- Tough and adherent coatings.

Some recommended applications include:

- Diaper and sanitary napkin rolls
- Adhesive tape components
- Paper rolls
- Label components
- Release components for rubber manufacturing

**Health and Safety:**

XIOM 315 is supplied as a finely divided powder. While there are no known health hazards associated with XIOM 315, 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.

Before thermal spraying, refer to the MSDS and Thermal Spray Manual for proper precautions to avoid exposure to combustion products. Xiom 315 contains fluorocarbons which could produce certain hazardous byproducts during spraying, i.e. hydrogen fluoride and carbonyl fluoride. Since thermal spray processing temperatures could reach above 400 C (750 F) while spraying, adequate ventilation is required to maintain concentrations below exposure limits. The spray operator should always use a positive pressure air supplied respirator.

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.