

## AI-1036

### Description and Applications

**AI-1036** is a chrome oxide, silicon dioxide, and titanium dioxide powder used for plasma or flame spraying applications. The hard and dense sprayed coatings are designed to resist abrasive wear combined with operating temperatures up to a maximum of 540°C. Plasma sprayed coatings of **AI-1036** are generally recognised as being the most abrasion resistant of all the ceramic coatings. The addition of silicon dioxide in the powder acts as a dampening medium, absorbing a reasonable level of impact loading for a ceramic coating. The abrasion resistant characteristics of the coating are significantly improved because of the smooth as sprayed surface.

**Applications include:** **AI-1036** is used for a wide spectrum of fine particle abrasion, anti-corrosion type applications. It is important that the coating is sealed with the correct sealant for a given corrosive environment. Please refer to your local Alloys International representative for further information regarding sealants. Specific applications include pump seals, wear rings, agitator blades, compressor rods, and minimising cavitation on components such as engine cylinder liners, and exhaust fans.

### Typical Weldmetal Analysis

TiO <sub>2</sub>	SiO <sub>2</sub>	Cr <sub>2</sub> O <sub>3</sub>
3.0	5.0	92.0

### Mechanical Properties of Weldmetal

	Flame Spray	Plasma Spray
Grain Size Range	-45 Mesh +22μ	-45 Mesh +22μ
Typical Density	6.8g/cm <sup>3</sup>	7.0g/cm <sup>3</sup>
Hardness	65-68 HRc	68-72 HRc
Coating Thickness	<2.0mm	<2.0mm
Coasting Weight	0.49kg/m <sup>2</sup> /0.1mm	0.52kg/m <sup>2</sup> /0.1mm
Bond Strength*	41MPa	46MPa
Porosity	<2%	<0.5%

\*Always apply a bond coat of AI-1037 or AI-1800 to improve bond strength

### Surface Preparation

A thorough cleaning of the substrate and removal of any surfaces oxides is necessary prior to spraying. Grit blasting with a Chilled Iron Grit grade G24 to a class 2 white metal finish is recommended.

### Preheating

Preheating to 80-100°C prior to spraying to prevent the formation of condensate is desirable.

### Disclaimer

All figures in this datasheet should be considered indicative only. No guarantee is made as to their accuracy. All figures subject to change without notice. Batch analysis is available for all products sold. Should you require any further information, please contact us at [sales@alloysint.com.au](mailto:sales@alloysint.com.au)



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