Technical Datasheet

FP-ALU
Aluminium Metal Powder

Key Features

- Very fine 250 Mesh Irregular Powder
- Ideal for use in cold casting
- Improves Dimensional Stability

Description

Highly pure, very fine 250 mesh aluminium metal powder suitable for a range of applications including resin-casting (cold casting), decorative coatings and powder metallurgy. Aluminium powder can also be added to resins and gelcoats to alter their thermal properties.

How to Use

Use In Cold-Casting / Resin Casting

Added to the whole of the resin mix, aluminium powder will increase the density of a casting (making it feel heavier) as well as its thermal conductivity (making it feel colder). Alternatively, it can be added in higher ratios to only a thin surface layer by slush-casting or rotational moulding, giving a very metallic surface to a casting that can then be back-filled with unfilled resin.

A ratio of at least 50% aluminium powder (by weight) would be required to result in a significantly metallic appearance. Higher ratios, up to the limit of pourability, will yield a more impressive metallic appearance and feel.

After casting, the metallic appearance will not be clear or vivid because the metal particles will be obscured behind a thin layer of resin. To reveal the metallic appearance, the casting can be rubbed with an abrasive pad or wire-wool.

When adding metallic powders to polyester or vinylester resin systems it is important to catalyse the resin prior to adding the metal powder so as to avoid any adverse reaction (rapid oxidisation) of the metal powder by the catalyst.

Such oxidisation or other adverse reactions are unlikely to occur with polyurethane or epoxy resins but it may still be a good idea to mix the resin and hardeners together before adding the metal powder.

To Add Temperature Stability

Aluminium powder is very frequently added to resins and gelcoats in order to improve their dimensional stability, particularly for use at elevated temperatures.

Epoxy tooling gelcoats, laminating pastes and casting resins can all be filled with aluminium powder to improve their dimensional stability at high temperature.

Specification

Particle Size Distribution - Sieve

Mesh	Size (µm)	Min %	Max %
+200	=75	0	2.0%
200/+325	-75/+45	-	Balance
-325	-45	-	-

Chemical Analysis

Element	Result (%)
Al	99.7
Fe	0.20
Si	0.15
Other	<0.01

Physical Proprties

Property	Unit	Result
Colour	-	Silver
Format	-	Powder
Tapped Density	g/cm³	0.9 - 1.3
Purity	%	99.7
Particle Size	Mesh	250

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