

POLYMER SOLUTIONS

# Alumide

Material Data Sheet

## ALUMIDE

### Product Description

Alumide is a metallic gray, aluminium-filled polyamide 12 powder. Parts made from Alumide are characterized by high stiffness, metallic appearance and good post-processing possibilities. The surfaces of alumide components can be very easily refined by grinding, polishing or coating. Machining is simplified by the chip-breaking effect of the aluminium filling (50 wt%).

### MAIN CHARACTERISTICS

- Thermal conductivity (limited)
- High stiffness
- Easy postprocessing

### TYPICAL APPLICATIONS

- Design elements
- Production equipment like jigs and fixtures
- Injection mold for small batch production

MECHANICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
<b>Tensile Modulus</b>			ISO 527-1/-2
X Orientation	3800 / -	MPa	
Y Orientation	3800 / -	MPa	
<b>Tensile Strength</b>			ISO 527-1/-2
X Orientation	48 / -	MPa	
Y Orientation	48 / -	MPa	
<b>Strain at Break</b>			ISO 527-1/-2
X Orientation	4 / -	%	
<b>Flexural Modulus</b>			ISO 178
X Orientation	3600 / -	MPa	
<b>Flexural Strength</b>			ISO 178
X Orientation	72 / -	MPa	
<b>Charpy Impact Strength (+23°C)</b>			ISO 179/1eU
X Orientation	29 / -	kJ/m <sup>2</sup>	
<b>Charpy Notched Impact Strength (+23°C)</b>			ISO 179/1eA
X Orientation	4.6 / -	kJ/m <sup>2</sup>	
<b>Shore D Hardness</b>			ISO 7619-1
X Orientation	76 / -	-	

THERMAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
<b>Melting Temperature</b>	176	°C	ISO 11357-1/-3
<b>Temperature of Deflection under Load 1.80 MPa</b>			ISO 75-1/-2
X Orientation	144	°C	
<b>Temperature of Deflection under Load 0.45 MPa</b>			ISO 75-1/-2
X Orientation	175	°C	
<b>Vicat Softening Temperature</b>			ISO 306/B50
X Orientation	169	°C	

ELECTRICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Volume Resistivity X Orientation	3E12 / -	Ohm·m	IEC 62631-3-1
Surface Resistivity X Orientation	5E14 / -	Ohm	IEC 62631-3-2
Relative Permittivity 100 Hz X Orientation	13 / -	-	IEC 62631-2-1
Relative Permittivity 1 MHz X Orientation	10 / -	-	IEC 62631-2-1
Dissipation Factor 1 MHz X Orientation	180 / -	E-4	IEC 62631-2-1
Electric Strength X Orientation	0.1 / -	kV/mm	IEC 60243-1

OTHER PROPERTIES	VALUE	UNIT	TEST STANDARD
Density	1.36	g/cm <sup>3</sup>	EOS Method
Powder Color	grey	-	-
Components Color	grey	-	-

## HEADQUARTERS

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