

## Alumide / PA12 + Aluminium

SLS MATERIAL

Mechanical properties	Value	Unit	Test Standard
Shore D hardness	<b>76</b>	-	ISO 7619-1

3D Data	Value	Unit	Test Standard
The properties of parts manufactured using additive manufacturing technology (e.g. lasers sintering, stereolithography, Fused Deposition Modelling, 3D printing ) are due to their layer-by-layer production, to some extent direction dependent. This has to be considered when designing the part and defining the build orientation.			
Tensile Modulus x Direction y Direction	<b>3800</b> <b>3800</b>	MPa MPa	ISO 527
Tensile Strength x Direction y Direction	<b>48</b> <b>48</b>	MPa MPa	ISO 527
Strain at break ( x Direction)	<b>4</b>	%	ISO 527
Charpy impact strength ( +23°C, x Direction)	<b>29</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength ( +23°C, x Direction)	<b>4.6</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Flexural Modulus ( +23°C, x Direction)	<b>3600</b>	Mpa	ISO 178
Flexural Strength ( +23°C, x Direction)	<b>72</b>	Mpa	ISO 178
Temp. of deflection under load 1.80 Mpa, x Direction 0.45 Mpa, x Direction	<b>144</b> <b>175</b>	°C °C	ISO 75-1/2
Volume Resistivity ( x Direction)	<b>3E 12</b>	Ohm*m	IEC 62631-3-1

Thermal properties	Value	Unit	Test Standard
Melting temperature (20°C/min)	<b>176</b>	°C	ISO 11357-1/-3
Temp. of deflection under load 1.80 Mpa 0.45 Mpa	<b>144</b> <b>175</b>	°C	ISO 75-1/-2
Vicat softening temperature (50°C/H 50N)	<b>169</b>	°C	ISO 306

Electrical properties	Value	Unit	Test Standard
Relative permittivity 100Hz 1MHz	<b>13</b> <b>10</b>	-	IEC 62631 -2-1
Dissipation factor (1MHz)	<b>180</b>	E-4	IEC 62631-2-1
Surface resistivity	<b>5E 14</b>	Ohm	IEC 62631-3-2
Electric strength	<b>0.1</b>	kV/mm	IEC 60243-1

Other properties	Value	Unit	Test Standard
Density (laser sintered)	<b>1360</b>	Kg/m <sup>3</sup>	ISO 7619-1

## Characteristics

Processing	Delivery form
Laser sintering, Rapid prototyping	Powder

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