

# Materials Selective Laser Sintering (SLS)



	PA 2200	PA 2201	PA 3200 GF	Alumide	PA 2241 FR	PA 2210 FR	PA 1101	TPU 1301
Composition	PA 12	PA 12	PA 12 glass ball filled	PA 12 aluminium filled	PA 12 flame retardant	PA 12 flame retardant	PA 11	TPU
Colour	white	translucent	white	metallic grey	white	white	white	White
Tensile modulus [MPa]	1700	1700	3200	3800	1900	2500 (XY), 2300 (Z)	1600	60
Tensile strength [MPa]	48	48	51	48	49 (XY), 46 (Z)	46 (XY), 41 (Z)	48	7
Elongation at break [%]	18	15	9	4 (Z)	9 (Z)	4	45	250
Melting temperature (20°/min) [°C]	176	176	185	176	185	185	201	138
Heat deflection temperature (1,80 MPa) [°C]	70	70	96	144	84	84	46	-
Heat deflection temperature [°C]	154 (0,65 MPa)	154 (0,45 MPa)	179 (0,45 MPa)	175 (0,45 MPa)	154 (0,45 MPa)	154 (0,45 MPa)	180 (0,65 MPa)	-
Density [kg/m³]	930	930	1200	1360	1000	1060	990	1080
Features	<ul style="list-style-type: none"><li>▪ Multipurpose material</li><li>▪ Balanced material properties</li><li>▪ Good strength</li><li>▪ Good stiffness</li><li>▪ Good chemical resistance</li><li>▪ Suitable for food contact</li></ul>	<ul style="list-style-type: none"><li>▪ Multipurpose material</li><li>▪ Balanced material properties</li><li>▪ Good strength</li><li>▪ Good stiffness</li><li>▪ Good chemical resistance</li></ul>	<ul style="list-style-type: none"><li>▪ High stiffness</li><li>▪ Good elongation at break</li><li>▪ High wear resistance</li><li>▪ Improved temperature property profile compared to PA 2200</li></ul>	<ul style="list-style-type: none"><li>▪ High stiffness</li><li>▪ Very high temperature resistance</li><li>▪ Dimensional stability at high temperatures</li><li>▪ Improved temperature property profile compared to PA 2200</li><li>▪ Easy to rework (good machinability and grindability)</li></ul>	<ul style="list-style-type: none"><li>▪ With halogencontaining flame retardant</li><li>▪ Good tensile strength</li><li>▪ Good stretchability</li><li>▪ Refresh optimised material</li><li>▪ Suitable for use in the aviation industry</li></ul>	<ul style="list-style-type: none"><li>▪ With halogenfree chemical flame retardant</li><li>▪ Fire protection class UL 94 / V-0 fulfilled from 3 mm wall thickness onwards</li><li>▪ Suitable for use in the aerospace, electrical and electronics industry</li></ul>	<ul style="list-style-type: none"><li>▪ Multipurpose material</li><li>▪ Balanced material properties</li><li>▪ High ductility</li><li>▪ High impact strength</li><li>▪ High breaking strength</li><li>▪ Shatterproof in case of breakage</li><li>▪ More temperature resistant than PA 12</li><li>▪ Based on renewable raw materials</li></ul>	<ul style="list-style-type: none"><li>▪ High resilience after deformation</li><li>▪ Good hydrolysis resistance</li><li>▪ High UV stability</li></ul>
Application	<ul style="list-style-type: none"><li>▪ Functional components</li></ul>	<ul style="list-style-type: none"><li>▪ Functional components</li></ul>	<ul style="list-style-type: none"><li>▪ Sturdy housings</li><li>▪ Components with wear and abrasion requirements</li><li>▪ Components with increased temperature resistance requirements</li></ul>	<ul style="list-style-type: none"><li>▪ Components with a metallic appearance</li><li>▪ Components with increased temperature stability requirements</li></ul>	<ul style="list-style-type: none"><li>▪ Aerospace (complies with FAR 25.853 and Airbus Directive for AM manufactured plastic parts)</li></ul>	<ul style="list-style-type: none"><li>▪ Aviation (complies with FAR 25.853)</li><li>▪ Electrical and electronic applications</li></ul>	<ul style="list-style-type: none"><li>▪ Functional parts that are subject to impact and deformation forces</li><li>▪ Components with functional elements for which a high elongation at break is relevant</li></ul>	<ul style="list-style-type: none"><li>▪ Protective clothing</li><li>▪ Soles</li><li>▪ Cushioning elements</li><li>▪ Seals</li><li>▪ Bellows</li><li>▪ Tubes</li></ul>