

## PA 2202 black

PA12

EOS GmbH - Electro Optical Systems

### Product Texts

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PA 2202 black is a pigment-filled polyamide 12 powder for manufacturing laser sintered parts that are black throughout.

All other part properties are comparable to those of PA 2200. Typical applications for the material are fully functional parts in design quality subject to high mechanical or thermal loads. The parts are black and often look better in technical areas than white parts. As this colour is throughout, scratches or subsequent holes do not degrade the appearance. The parts are also less susceptible to soiling, as soiling is less conspicuous against the black background. The black colour can also be used to differentiate the parts from parts in other colours to prevent confusion.

Mechanical properties	Value	Unit	Test Standard
Shore D hardness (15s)	<b>75</b>	-	ISO 868

3D Data	Value	Unit	Test Standard
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The properties of parts manufactured using additive manufacturing technology (e.g. laser 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)	<b>1850</b>	MPa	ISO 527-1/-2
Tensile Modulus (Y Direction)	<b>1850</b>	MPa	ISO 527-1/-2
Tensile Modulus (Z Direction)	<b>1800</b>	MPa	ISO 527-1/-2
Tensile Strength (X Direction)	<b>50</b>	MPa	ISO 527-1/-2
Tensile Strength (Y Direction)	<b>50</b>	MPa	ISO 527-1/-2
Tensile Strength (Z Direction)	<b>48</b>	MPa	ISO 527-1/-2
Strain at break (X Direction)	<b>12</b>	%	ISO 527-1/-2
Strain at break (Y Direction)	<b>12</b>	%	ISO 527-1/-2
Strain at break (Z Direction)	<b>6</b>	%	ISO 527-1/-2
Flexural Modulus (23°C, X Direction)	<b>1350</b>	MPa	ISO 178
Flexural Strength (X Direction)	<b>53</b>	MPa	ISO 178
Temp. of deflection under load (1.80 MPa, X Direction)	<b>75</b>	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa, X Direction)	<b>154</b>	°C	ISO 75-1/-2

Thermal properties	Value	Unit	Test Standard
Melting temperature (20°C/min)	<b>176</b>	°C	ISO 11357-1/-3

Other properties	Value	Unit	Test Standard
Density (lasersintered)	<b>980</b>	kg/m <sup>3</sup>	EOS Method
Powder colour (ac. to safety data sheet)	<b>Black</b>	-	-

### Characteristics

#### Processing

Laser Sintering, Rapid Prototyping

#### Special Characteristics

Heat stabilized or stable to heat

#### Delivery form

Powder