

**PrimePart® ST PEBA 2301**

TPA

EOS GmbH - Electro Optical Systems

**Product Texts**
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PrimePart® ST (PEBA 2301) is a natural coloured powder of a polyether block amide, which is developed and optimised for the application in a Laser Sinter system.

Laser-sintered parts made from PrimePart® ST (PEBA 2301) possess excellent material properties:

- High elasticity and strength
- good chemical resistance
- excellent long-term stability
- high selectivity and detail resolution
- various finishing possibilities (e.g vibratory grinding, flame treatment, tub colouring, bond-ing, flocking)

Typical applications of the material are fully functional, flexible plastic parts of highest quality. Due to the excellent mechanical properties the material is often used as a production material for long term use. The rubber-like fatigue behaviour qualifies Prime Part® ST (PEBA 2301) as excellent prototyping and series material.

| Mechanical properties  | Value     | Unit | Test Standard |
|------------------------|-----------|------|---------------|
| Shore D hardness (15s) | <b>35</b> | -    | ISO 868       |

| 3D Data  | Value      | Unit | Test Standard |
|--|------------|------|---------------|
| 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  |            |      | ISO 527-1/-2  |
| X Direction  | <b>75</b>  | MPa  |               |
| Y Direction  | <b>75</b>  | MPa  |               |
| Z Direction  | <b>80</b>  | MPa  |               |
| Tensile Strength   |            |      | ISO 527-1/-2  |
| X Direction  | <b>8</b>   | MPa  |               |
| Y Direction  | <b>8</b>   | MPa  |               |
| Z Direction  | <b>7</b>   | MPa  |               |
| Strain at break  |            |      | ISO 527-1/-2  |
| X Direction  | <b>200</b> | %    |               |
| Y Direction  | <b>200</b> | %    |               |
| Z Direction  | <b>70</b>  | %    |               |

| Thermal properties             | Value      | Unit | Test Standard  |
|--------------------------------|------------|------|----------------|
| Melting temperature (20°C/min) | <b>150</b> | °C   | ISO 11357-1/-3 |

| Other properties                         | Value                 | Unit              | Test Standard |
|--|-----------------------|-------------------|---------------|
| Density (lasersintered)                  | <b>950</b>            | kg/m <sup>3</sup> | EOS Method    |
| Powder colour (ac. to safety data sheet) | <b>White</b>          | -                 | -             |
| Colour of the components                 | <b>Natural Colour</b> | -                 | -             |

**Characteristics**
**Processing**

Laser Sintering, Rapid Prototyping

**Features**

Colourable, Gas Tightness, Soft Feel

**Delivery form**

Powder

**Chemical Resistance**

General Chemical Resistance

**Special Characteristics**

High impact or impact modified

**Applications**

Air Ducts, Automotive, Encapsulation, Footwear Components, Handles, Medical, Seals &amp; Gaskets, Sports Equipment