ACEO® Silicone GP Shore A 20

3D PRINTED ACEO® SILICONES

Product description

3D printed rubber objects of the ACEO® GP series are consistently high-quality parts which are produced via additive manufacturing. These elastomers are made out of 100 % pure silicone. The applied platinum catalyzed addition reactions lead to odor- and tasteless products
All 3D printed rubber objects of the ACEO® GP series are postcured after the 3D printing process. This allows for an improvement in the mechanical properties (e.g. a particularly low compression set) and the removal of volatiles (low-molecular polymer components). The post treatment leads to a slight yellow discoloration in translucent parts.

Special features

ACEO® GP Shore A 20 has been designed especially for 3D printed parts. It is noted for its very good mechanical and electrical properties, including a good tear resistance according to ASTM D 624 B and DIN ISO 34-1 A (DIN 53507).

Available Colors:
ACEO® GP Shore A 20 is currently offered in in various colors. For detailed information please refer to the ACEO® design guidelines on www.aceo3d.com.

General properties of silicone elastomers

Rubber objects made of silicones can be used within a temperature range of - 55 °C to + 180 °C.
They are resistant to dilute acids and bases. Nonpolar solvents (gasoline, benzene, chlorinated hydrocarbons) cause extensive swelling.
Silicone elastomers show a high resistance to radiation and environmental influences and have a water repellent surface. They are insulators and show remarkable high gas permeability.

Appearance

3D printed rubber objects of the ACEO® GP series do show various surface qualities. Four different surfaces can be expected:
Surfaces being in contact to the building platform, surfaces generated by the layer by layer built up, surfaces of the ACEO® Silicones itself, and surfaces being in contact to the support material (if used). For further details, please refer to the ACEO® design guidelines on www.aceo3d.com.

Application

ACEO® GP Shore A 20 has been designed especially for 3D printed parts. This material enables applications in automotive, aerospace, medical and many other applications.

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site http://www.wacker.com.

Product data

Typical general characteristics[Δ)]	Inspection Method	Value
Hardness Shore A	ISO 7619-1	20
Density	DIN EN ISO 1183-1 A	1,09 g/cm³
Tensile strength	ISO 37 Type 1	> 7,00 N/mm²
Elongation at break	ISO 37 Type 1	> 800 %
Tear strength	ASTM D 624 B	> 25 N/mm
Tear strength	DIN ISO 34-1-A	> 8 N/mm
Rebound resilience	ISO 4662	50 %
Compression set	DIN ISO 815-1 Type B (22 h / 175 °C)	<25 %

Further typical characteristics[Δ)]	Inspection Method	Value
LOI-value	EN ISO 4589-2 / ASTM D2863	23 %
Dielectric strength	IEC 60243-1	16 kV/mm
Volume resistivity	IEC 62631-3-1	8,1 10^{15} Ω cm
Dielectric constant (50 Hz)	IEC 60250	2,8 εr
Dissipation factor (50 Hz)	IEC 60250	3 x 10^{-4} tan δ

[Δ)] All values were generated from the average of samples built in the flat orientation (XY). Test specimens were die-cut from postcured test plaques.

These figures are only intended as a guide and should not be used in preparing specifications.

For technical or quality questions, please contact:

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