Desmovit® DP R CF30

Thermoplastic Polyurethane Elastomer (Ester/Ether)

geba Kunststoffcompounds GmbH

Message:

With its mechanical properties TPU Desmovit ® DP R CF stands out from the existing glass-fibrereinforced TPU grades. Desmovit ® DP R CF has very good flexural and tensile proper-ties. The tensile strength, depending on the level of reinforcement, lies between 70 and 135 MPa, and for the flexural strength values of up to 5700 MPa have been achieved. Via the combination of its excellent tensile strength and its high impact strength and notched impact strength, the new hi-tech material is relevant for parts which are subject to knocks and blows. It's also worth mentioning that the new plastic only becomes irreparably damaged after a yield strain of 17.5%.
Applications:
With its low density and its mechanical properties, Desmovit ® DP R CF is ideal for the production of protectors as well as protective cases for tablets and smartphones. The material prevents penetration by sharp objects, absorbs impact force and optimally reduces the remaining energy. The use of the hi-tech plastic is conceivable for diverse applications in the field of sports equipment as well as for use in durable housings for various fields of application such in watches, tools and binoculars. This will ensure, for example, that the optical components of the binoculars will not be damaged through shocks and knocks. The carbon fibre reinforced TPU with its sophisticated mechanical values is antistatic after a certain level of reinforcement and lends itself, with these antistatic properties, to use in rollers, wheels and housings where electrostatic charges are to be avoided. It can therefore be considered for use in mining or the chemical sector as well as for industrial gear wheels. Due to the material's heat and cold stability it is also ideal for use in various outdoor applications.

General Information	
Filler / Reinforcement	Carbon Fiber,30% Filler by Weight
Features	Good Abrasion Resistance Good Tear Strength Good Thermal Stability High Impact Resistance Hydrolysis Resistant Low Density
Uses	Electrical Housing Industrial Applications Optical Applications Outdoor Applications Rollers Safety Guards Sporting Goods Wheels
Processing Method	Extrusion Injection Molding

Physical	Nominal Value	Unit	Test Method
Density	1.35	g/cm³	ISO 1183/A
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D, 23°C)	75		ISO 868

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	4800	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/200
Yield	135	MPa	
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10% Strain	122	MPa	
Tensile Strain			ISO 527-2/200
Yield	15	%	
Break	15	%	
Flexural Modulus [1]	5700	MPa	ISO 178
Flexural Stress [2]	110	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	15	kJ/m^2	
23°C	42	kJ/m^2	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	66	kJ/m^2	
23°C	No Break		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Vicat Softening Temperature	125	°C	ISO 306/B50
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.7E+5	ohms	IEC 60093
Volume Resistivity	5.1E+4	ohms·cm	IEC 60093
Injection	**Nominal Value**	**Unit**	
Drying Temperature	80.0	°C	
Drying Time - Dry Air Dryer	4.0 to 6.0	hr	
Processing (Melt) Temp	190 to 210	°C	
Mold Temperature	40.0	°C	
Extrusion	**Nominal Value**	**Unit**	
Melt Temperature	200 to 220	°C	
NOTE			
1.	2.0 mm/min		
2.	2.0 mm/min		

Recommended distributors for this material

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