

Fortron® 6165A6

Polyphenylene Sulfide

Celanese Corporation

Message:

Fortron 6165A6 is an easier flow version of Fortron 6165A4. It offers similar characteristics to the 6165A4. Applications include electronic components (i.e. lamps housings and sockets) and mechanical components (i.e. pumps and pistons).

General Information	
UL YellowCard	E107854-237748
Filler / Reinforcement	Glass \mineral, 65% filler by weight
Features	Good liquidity
Uses	Pump parts
	Electrical/Electronic Applications
	Shell
RoHS Compliance	Contact manufacturer
Multi-Point Data	Isochronous Stress vs. Strain (ISO 11403-1)
	Isothermal Stress vs. Strain (ISO 11403-1)

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	2.00	g/cm ³	ASTM D792
--	1.95	g/cm ³	ISO 1183
Specific Volume	0.502	cm ³ /g	ASTM D792
Specific Heat Capacity of Melt	1600	J/kg/°C	Internal method
Molding Shrinkage			
Flow	0.10 - 0.20	%	ASTM D955
Transverse flow	0.30 - 0.50	%	ASTM D955
Vertical flow direction	0.30 - 0.70	%	ISO 294-4
Flow direction	0.20 - 0.60	%	ISO 294-4
Water Absorption (Saturation, 23°C)	0.020	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
Class m	100		ASTM D785
M scale	100		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	19000	MPa	ISO 527-2/1A/1
Tensile Strength			
Fracture, 23°C	114	MPa	ASTM D638
Fracture	130	MPa	ISO 527-2/1A/5

Tensile Elongation			
Fracture, 23°C	1.3	%	ASTM D638
Fracture	1.2	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	18800	MPa	ISO 178
Flexural Stress ¹	210	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	7.0	kJ/m ²	ISO 179/1eA
23°C	7.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	20	kJ/m ²	ISO 179/1eU
23°C	20	kJ/m ²	ISO 179/1eU
Notched Izod Impact			ISO 180/1A
-30°C	6.0	kJ/m ²	ISO 180/1A
23°C	6.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	20	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, annealed	280	°C	ASTM D648
1.8 MPa, not annealed	266	°C	ASTM D648
1.8 MPa, not annealed	270	°C	ISO 75-2/A
8.0 MPa, not annealed	215	°C	ISO 75-2/C
Glass Transition Temperature ²	90.0	°C	ISO 11357-2
Melting Temperature ³	280	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.9E-5	cm/cm/°C	ISO 11359-2
Lateral	2.4E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity			
--	1.0E+16	ohms · cm	ASTM D257
--	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength	25	kV/mm	IEC 60243-1
Dielectric Constant			
1 kHz	4.50		ASTM D150
1 MHz	4.50		ASTM D150
1 MHz	5.60		IEC 60250
Dissipation Factor			
1 kHz	1.0E-3		ASTM D150
1 MHz	9.0E-4		ASTM D150
1 MHz	2.0E-3		IEC 60250
Arc Resistance	182	sec	ASTM D495

Comparative Tracking Index	175	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.750 mm	V-0		UL 94
1.50 mm	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	130 - 140	°C	
Drying Time	3.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	20.0 - 30.0	°C	
Rear Temperature	290 - 300	°C	
Middle Temperature	310 - 320	°C	
Front Temperature	330 - 340	°C	
Nozzle Temperature	310 - 330	°C	
Processing (Melt) Temp	330 - 340	°C	
Mold Temperature	140 - 160	°C	
Injection Pressure	50.0 - 100	MPa	
Injection Rate	Fast		
Holding Pressure	30.0 - 70.0	MPa	
Back Pressure	0.00 - 3.00	MPa	
Injection instructions			
Manifold Temperature: 330 to 340°CZone 4 Temperature: 330 to 340°CFeed Temperature: 60 to 80°C			
NOTE			
1.	Break		
2.	10°C/min		
3.	10°C/min		

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