

SABIC® PPcompound 8620

Polypropylene

SABIC Innovative Plastics

Message:

SABIC® PPCOMPOUND 8620 is a mineral filled, impact modified polypropylene TPO. This material combines scratch resistance and good flow with exterior automotive weathering stability. It was originally designed for painted or unpainted automotive bumper fascia applications where a combination of high stiffness and cold temperature ductility is required. The IMDS is 209747700.

General Information			
Filler / Reinforcement	Mineral		
Additive	Impact Modifier		
Features	Ductile		
	Good Flow		
	Good Weather Resistance		
	High Stiffness		
	Impact Modified		
	Scratch Resistant		
Uses	Automotive Applications		
	Automotive Exterior Parts		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.03	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	23	g/10 min	ISO 1133
Molding Shrinkage			Internal Method
Across Flow : 80°C, 1 hr	0.80	%	
Across Flow : 120°C, 30 min	0.90	%	
Across Flow : 23°C, 48 hr	0.70	%	
Flow : 80°C, 1 hr	0.50	%	
Flow : 120°C, 30 min	0.60	%	
Flow : 23°C, 48 hr	0.40	%	
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	54		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	1900	MPa	ASTM D638
--	1680	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	17.0	MPa	ASTM D638

Yield	17.0	MPa	ISO 527-2/50
Break ³	12.0	MPa	ASTM D638
Break	11.5	MPa	ISO 527-2/1A/50
Tensile Elongation			
Yield ⁴	5.0	%	ASTM D638
Yield	4.4	%	ISO 527-2/50
Break ⁵	100	%	ASTM D638
Break	39	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	1390	MPa	ASTM D790
64.0 mm Span ⁷	1740	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C ⁸	7.0	kJ/m ²	
0°C ⁹	26	kJ/m ²	
23°C ¹⁰	58	kJ/m ²	
Notched Izod Impact			
23°C, 3.20 mm ¹¹	540	J/m	ASTM D256
-30°C ¹²	6.9	kJ/m ²	ISO 180/1A
0°C ¹³	26	kJ/m ²	ISO 180/1A
23°C ¹⁴	50	kJ/m ²	ISO 180/1A
Unnotched Izod Impact ¹⁵ (23°C, 3.20 mm)	No Break		ASTM D4812
Instrumented Dart Impact ¹⁶			ASTM D3763
-30°C, Energy at Peak Load	21.6	J	
0°C, Energy at Peak Load	17.7	J	
23°C, Energy at Peak Load	16.3	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	98.0	°C	ASTM D648
0.45 MPa, Unannealed ¹⁷	100	°C	ISO 75-2/B
1.8 MPa, Unannealed, 3.20 mm	52.0	°C	ASTM D648
1.8 MPa, Unannealed ¹⁸	56.0	°C	ISO 75-2/A
Vicat Softening Temperature	123	°C	ISO 306/A50
Coefficient of Linear Thermal Expansion			ISO 11359-2
Flow : -30 to 100°C	41.2	µm/Mk	
Transverse : -30 to 100°C	167	µm/Mk	
Injection	Nominal Value	Unit	
Drying Temperature	80.0 to 100	°C	
Drying Time	2.0 to 4.0	hr	
Rear Temperature	190 to 230	°C	
Middle Temperature	200 to 250	°C	
Front Temperature	210 to 270	°C	

Nozzle Temperature	210 to 270	°C
Processing (Melt) Temp	210 to 270	°C
Mold Temperature	15.0 to 60.0	°C
Back Pressure	1.00 to 1.50	MPa

NOTE

1.	50 mm/min
2.	Type I, 50 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	80*10*4mm, Cut
9.	80*10*4 mm, Cut
10.	80*10*4 mm, Cut
11.	63.5*12.7*3.2mm, Cut
12.	80*10*4mm, Cut
13.	80*10*4mm, Cut
14.	80*10*4mm, Cut
15.	63.5*12.7*3.2mm, Cut
16.	2.20 m/sec
17.	80*10*4mm, Cut
18.	80*10*4mm, Cut

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