

SABIC® PPcompound 7705

Polypropylene

Saudi Basic Industries Corporation (SABIC)

Message:

SABIC® PPCOMPOUND 7705 is a mineral filled, impact modified polypropylene TPO. This material combines impact resistance, scratch resistance, and heat stability with interior automotive UV stability. The IMDS is 16161010.

General Information			
Filler / Reinforcement	Mineral filler		
Additive	Impact modifier		
Features	Impact modification		
	Impact resistance, good		
	Good UV resistance		
	Scratch resistance		
	Thermal stability, good		
Uses	Application in Automobile Field		
	Car interior parts		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.05	g/cm ³	ASTM D792
--	1.04	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	22	g/10 min	ISO 1133
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	60		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	1910	MPa	ASTM D638
--	2010	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	23.0	MPa	ASTM D638
Yield	22.0	MPa	ISO 527-2/50
Fracture ³	16.0	MPa	ASTM D638
Fracture	17.0	MPa	ISO 527-2/1A/50
Tensile Elongation			
Yield ⁴	4.6	%	ASTM D638
Yield	4.4	%	ISO 527-2/50
Fracture ⁵	24	%	ASTM D638

Fracture	32	%	ISO 527-2/50
Flexural Modulus			
64.0mm span ⁶	2080	MPa	ISO 178
50.0mm span ⁷	1900	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C ⁸	2.4	kJ/m ²	ISO 179/1eA
23°C ⁹	No Break		ISO 179/1eA
Notched Izod Impact			
23°C, 3.20 mm ¹⁰	120	J/m	ASTM D256
-30°C ¹¹	3.0	kJ/m ²	ISO 180/1A
0°C ¹²	6.0	kJ/m ²	ISO 180/1A
23°C ¹³	20	kJ/m ²	ISO 180/1A
Unnotched Izod Impact ¹⁴ (23°C, 3.20 mm)	No Break		ASTM D4812
Instrumented Dart Impact ¹⁵			ASTM D3763
-30°C, Energy at Peak Load	7.10	J	ASTM D3763
0°C, Energy at Peak Load	19.1	J	ASTM D3763
23°C, Energy at Peak Load	22.1	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	112	°C	ASTM D648
0.45 MPa, not annealed ¹⁶	105	°C	ISO 75-2/B
1.8 MPa, unannealed, 3.20mm	57.0	°C	ASTM D648
1.8 MPa, not annealed ¹⁷	59.0	°C	ISO 75-2/A
Vicat Softening Temperature	130	°C	ISO 306/A50
Coefficient of Linear Thermal Expansion			ISO 11359-2
Flow: -30 to 100°C	59.0	µm/Mk	ISO 11359-2
Transverse: -30 to 100°C	148	µm/Mk	ISO 11359-2
Injection	Nominal Value	Unit	
Drying Temperature	80.0 - 100	°C	
Drying Time	2.0 - 4.0	hr	
Rear Temperature	190 - 230	°C	
Middle Temperature	200 - 250	°C	
Front Temperature	210 - 270	°C	
Nozzle Temperature	210 - 270	°C	
Processing (Melt) Temp	210 - 270	°C	
Mold Temperature	15.0 - 60.0	°C	
Back Pressure	1.00 - 1.50	MPa	
NOTE			
1.	50 mm/min		
2.	Type 1, 50mm/min		
3.	Type 1, 50mm/min		

4.	Type 1, 50mm/min
5.	Type 1, 50mm/min
6.	2.0 mm/min
7.	1.3 mm/min
8.	80*10*4mm, Cut
9.	80*10*4 mm, Cut
10.	63.5*12.7*3.2mm, Cut
11.	80*10*4mm, Cut
12.	80*10*4mm, Cut
13.	80*10*4mm, Cut
14.	63.5*12.7*3.2mm, Cut
15.	6.60 m/sec
16.	80*10*4mm, Cut
17.	80*10*4mm, Cut

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