



TDS Polyflam™ RIPP 510 D

Polypropylene Copolymer

Product

Flame retardant PP-copolymer - grade without PBDE

General

Material Status	Commercial: Active		
Availability	Africa & Middle East Latin America	Asia Pacific North America	Europe
Additive	Flame Retardant		
Features	Copolymer	Flame Retardant	
Processing Method	Injection Molding		
Part Marking Code (ISO 11469)	>PP FR()<		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.940 g/cm ³	0.940 g/cm ³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	0.336 in ³ /10min	5.50 cm ³ /10min	ISO 1133

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	160000 psi	1100 MPa	ISO 527-2/1A/1
Tensile Stress (Yield)	3340 psi	23.0 MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	12 %	12 %	ISO 527-2/1A/50

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	1.4 ft·lb/in ²	3.0 kJ/m ²	
73°F (23°C)	3.8 ft·lb/in ²	8.0 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	29 ft·lb/in ²	60 kJ/m ²	
73°F (23°C)	No break	No break	

TDS Polyflam™ RIPP 510 D

Polypropylene Copolymer

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (Area) (73°F (23°C))	4.76 ft·lb/in ²	10.0 kJ/m ²	ASTM D256
Notched Izod Impact Strength			ISO 180/1A
-40°F (-40°C)	2.1 ft·lb/in ²	4.5 kJ/m ²	
73°F (23°C)	3.3 ft·lb/in ²	7.0 kJ/m ²	
Unnotched Izod Impact Strength			ISO 180/1eU
-40°F (-40°C)	21 ft·lb/in ²	45 kJ/m ²	
73°F (23°C)	No break	No break	

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Ball Indentation Hardness (H 358/30)	8990 psi	62.0 MPa	ISO 2039-1

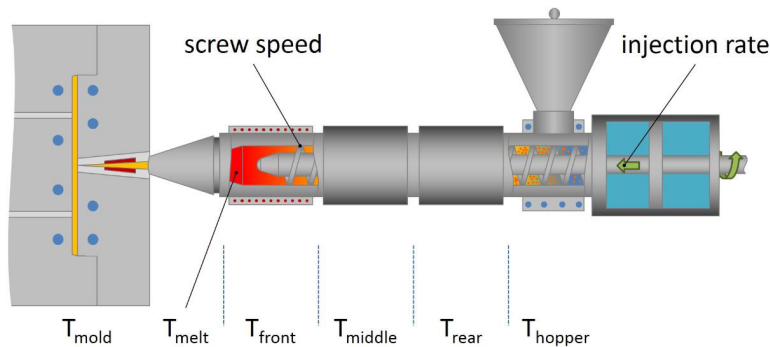
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	221°F	105°C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	140°F	60.0°C	ISO 75-2/Af
Vicat Softening Temperature			
--	288°F	142°C	ISO 306/A120
--	165°F	74.0°C	ISO 306/B50
Ball Pressure Test (248°F (120°C))	Pass	Pass	IEC 60695-10-2

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+15 ohms	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+13 ohms·cm	> 1.0E+13 ohms·cm	IEC 60093
Comparative Tracking Index	600 V	600 V	IEC 60112

TDS Polyflam™ RIPP 510 D

Polypropylene Copolymer

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flammability Classification			IEC 60695-11-10, -20
0.030 in (0.75 mm)	V-2	V-2	
0.06 in (1.5 mm)	V-2	V-2	
Glow Wire Flammability Index			IEC 60695-2-12
0.030 in (0.75 mm)	1760°F	960°C	
0.06 in (1.5 mm)	1760°F	960°C	
0.12 in (3.0 mm)	1760°F	960°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.030 in (0.75 mm)	1290°F	700°C	
0.06 in (1.5 mm)	1250°F	675°C	
0.12 in (3.0 mm)	1250°F	675°C	
Oxygen Index	29%	29%	ISO 4589-2





TDS Polyflam™ RIPP 510 D

Polypropylene Copolymer

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	158 to 176°F	70 to 80°C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Rear Temperature	356°F	180°C
Middle Temperature	392°F	200°C
Front Temperature	410°F	210°C
Nozzle Temperature	428°F	220°C
Processing (Melt) Temp	356 to 428°F	180 to 220°C
Mold Temperature	104 to 176°F	40 to 80°C
Injection Pressure	11600 to 17400 psi	80.0 to 120 MPa
Injection Rate	Slow-Moderate	Slow-Moderate
Holding Pressure	5800 to 13100 psi	40.0 to 90.0 MPa
Back Pressure	725 to 1450 psi	5.00 to 10.0 MPa
Cushion	< 0.197 in	< 5.00 mm
Screw Speed	< 709 in/min	< 18 m/mi