Product Comparison

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Technical Data

Product Description	
ADDIFLAM® VHI 53063 X	RoHS flame retardant V0 PP compound, with 30% glass fibers loaded and heat resistance
Generic PP, Unspecified	This data represents typical values that have been calculated from all products classified as: Generic PP, Unspecified This information is provided for comparative purposes only.

General	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified
Manufacturer / Supplier	• ADDIPLAST	• Generic
Generic Symbol	• PP, Unspecified	• PP, Unspecified
Material Status	• Commercial: Active	• Commercial: Active
Literature [1]	• Technical Datasheet (English)	--
Search for UL Yellow Card	• ADDIPLAST	--
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Flame Retardant	--
Features	• Flame Retardant • High Heat Resistance • High Stiffness	--
RoHS Compliance	• RoHS Compliant	--

Physical	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit	Test Method
Density / Specific Gravity				
--	--	0.790 to 1.13	g/cm³	ASTM D792
--	--	0.893 to 1.08	g/cm³	ISO 1183
--	1.39	--	g/cm³	ISO 1183/A
--	--	0.896 to 0.902	g/cm³	ASTM D1505
Melt Mass-Flow Rate (MFR)				
230°C/2.16 kg	--	0.10 to 38	g/10 min	ASTM D1238
230°C/2.16 kg	--	0.30 to 30	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	7.0	3.6 to 26	cm³/10min	ISO 1133
Molding Shrinkage				
Flow	--	0.54 to 1.9	%	ASTM D955
Across Flow	--	0.92 to 1.7	%	ASTM D955
--	--	0.53 to 1.8	%	ISO 294-4
Dimensional Change	--	2.9 to 6.0	%	ASTM D1042
Water Absorption				
24 hr	--	9.8E-3 to 0.031	%	ASTM D570
24 hr, 23°C	--	0.010 to 0.10	%	ISO 62
Saturation	--	0.010 to 0.062	%	ASTM D570
Equilibrium	--	0.092 to 0.10	%	ASTM D570
Equilibrium, 23°C, 50% RH	--	0.010 to 0.10	%	ISO 62

Form No. TDS-421067-118847-en
Document Created: Tuesday, April 9, 2024

Physical	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit	Test Method
Moisture Content	--	988 to 1025	ppm	
Mechanical	**ADDIFLAM® VHI 53063 X**	**Generic PP, Unspecified**	**Unit**	**Test Method**
Tensile Modulus				
--	--	248 to 2770	MPa	ASTM D638
--	--	884 to 2640	MPa	ISO 527-1
Tensile Strength				
Yield	--	19.7 to 39.3	MPa	ASTM D638
Yield	--	16.6 to 35.4	MPa	ISO 527-2
Break	--	16.7 to 44.0	MPa	ASTM D638
Break	--	11.0 to 25.2	MPa	ISO 527-2
Break	80.0	--	MPa	ISO 527-2/1A
--	--	7.00 to 53.2	MPa	ASTM D638
--	--	16.6 to 33.7	MPa	ISO 527-2
Tensile Elongation				
Yield	--	0.75 to 13	%	ASTM D638
Yield	--	1.0 to 18	%	ISO 527-2
Break	--	2.0 to 510	%	ASTM D638
Break	--	0.40 to 510	%	ISO 527-2
Break	5.0	--	%	ISO 527-2/1A
Flexural Modulus				
--	--	172 to 1820	MPa	ASTM D790
--	7700	784 to 2950	MPa	ISO 178
Flexural Strength				
--	--	24.7 to 54.5	MPa	ASTM D790
--	--	5.00 to 84.8	MPa	ISO 178
Yield	--	17.7 to 48.2	MPa	ASTM D790
Coefficient of Friction	--	0.20 to 0.25		ASTM D1894
Films	**ADDIFLAM® VHI 53063 X**	**Generic PP, Unspecified**	**Unit**	**Test Method**
Film Thickness - Tested	--	10 to 89	µm	
Tensile Strength				ASTM D882
MD : Yield	--	115 to 148	MPa	
TD : Yield	--	22.0 to 287	MPa	
Tensile Elongation				ASTM D882
MD : Break	--	140 to 190	%	
TD : Break	--	40 to 73	%	
Oxygen Transmission Rate	--	31 to 170	$cm^3/m^2/24\ hr$	ASTM D3985
Water Vapor Transmission Rate	--	0.16 to 7.9	$g/m^2/24\ hr$	ASTM F1249

Elastomers	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit	Test Method
Tensile Stress				ASTM D412
100% Strain	--	0.100 to 6.30	MPa	
300% Strain	--	0.300 to 8.00	MPa	
Tensile Strength (Break)	--	3.57 to 15.9	MPa	ASTM D412
Tensile Elongation (Break)	--	320 to 510	%	ASTM D412
Tear Strength	--	9.93 to 170	kN/m	ASTM D624
Impact	**ADDIFLAM® VHI 53063 X**	**Generic PP, Unspecified**	**Unit**	**Test Method**
Charpy Notched Impact Strength				
--	--	1.0 to 13	kJ/m²	ISO 179
-20°C	9.0	--	kJ/m²	ISO 179/1eA
23°C	10	--	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength				
--	--	6.7 to 91	kJ/m²	ISO 179
-20°C	40	--	kJ/m²	ISO 179/1eU
23°C	38	--	kJ/m²	ISO 179/1eU
Notched Izod Impact				
--	--	7.5 to 130	J/m	ASTM D256
--	--	1.0 to 16	kJ/m²	ISO 180
--	9.0	--	kJ/m²	ISO 180/1A
Notched Izod Impact (Area)	--	2.98 to 6.93	kJ/m²	ASTM D256
Unnotched Izod Impact				
--	--	29 to 110	J/m	ASTM D4812
--	--	7.3 to 98	kJ/m²	ISO 180
Instrumented Dart Impact	--	22.0 to 22.5	J	ASTM D3763
Gardner Impact	--	1.13 to 16.0	J	ASTM D3029
Gardner Impact	--	0.452 to 36.2	J	ASTM D5420
Hardness	**ADDIFLAM® VHI 53063 X**	**Generic PP, Unspecified**	**Unit**	**Test Method**
Rockwell Hardness				
--	--	74 to 106		ASTM D785
--	--	74 to 113		ISO 2039-2
Durometer Hardness				
--	--	40 to 98		ASTM D2240
--	--	39 to 78		ISO 868
Shore D	82	--		ISO 868
Thermal	**ADDIFLAM® VHI 53063 X**	**Generic PP, Unspecified**	**Unit**	**Test Method**
Deflection Temperature Under Load				
0.45 MPa, Unannealed	--	76.9 to 141	°C	ASTM D648
0.45 MPa, Unannealed	--	72.5 to 131	°C	ISO 75-2/B
0.45 MPa, Annealed	--	80.0 to 130	°C	ASTM D648
1.8 MPa, Unannealed	--	47.3 to 106	°C	ASTM D648
1.8 MPa, Unannealed	--	45.0 to 164	°C	ISO 75-2/A
1.8 MPa, Unannealed	150	--	°C	ISO 75-2/Af
Continuous Use Temperature	--	74.5 to 90.3	°C	ASTM D794

Thermal	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit	Test Method
Vicat Softening Temperature				
--	--	79.7 to 157	°C	ASTM D1525
--	160	--	°C	ISO 306/A50
--	--	69.4 to 156	°C	ISO 306
Ball Pressure Test (134°C)	Pass	--		IEC 60695-10-2
Melting Temperature				
--	--	159 to 182	°C	
--	--	130 to 165	°C	DSC ISO 3146
--	165 to 168	158 to 168	°C	ISO 11357-3
--	--	150 to 163	°C	ASTM D3418
CLTE - Flow				
--	--	4.9E-5 to 1.0E-4	cm/cm/°C	ASTM D696
--	--	4.8E-5 to 1.6E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity				
--	--	0.12 to 0.62	W/m/K	ASTM C177
--	--	0.20 to 0.22	W/m/K	ISO 8302
RTI Elec	--	65.0 to 115	°C	UL 746B
RTI Imp	--	65.0 to 121	°C	UL 746B
RTI Str	--	64.1 to 121	°C	UL 746B

Electrical	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit	Test Method
Surface Resistivity				
--	--	1.0E+2 to 2.5E+16	ohms	ASTM D257
--	--	1.0E+2 to 1.3E+16	ohms	IEC 60093
--	--	1.0E+4 to 1.1E+14	ohms	IEC 62631-3-2
Volume Resistivity				
--	--	1.0 to 1.1E+16	ohms·cm	ASTM D257
--	--	5.0 to 5.8E+16	ohms·cm	IEC 60093
Dielectric Strength				
--	--	15 to 41	kV/mm	ASTM D149
--	--	18 to 51	kV/mm	IEC 60243-1
Dielectric Constant				
--	--	2.29 to 2.31		ASTM D150
--	--	2.26 to 2.41		IEC 60250
--	--	2.30		IEC 60250
Dissipation Factor				
--	--	2.8E-4 to 3.2E-3		ASTM D150
--	--	1.9E-4 to 2.6E-3		IEC 60250
Arc Resistance	--	129 to 192	sec	ASTM D495
Comparative Tracking Index (CTI)	--	600	V	UL 746A
Comparative Tracking Index	500	581 to 603	V	IEC 60112
High Amp Arc Ignition (HAI)	--	196 to 200		UL 746A
High Voltage Arc Tracking Rate (HVTR)	--	0.00 to 0.324	mm/min	UL 746A
Hot-wire Ignition (HWI)	--	6.0 to 56	sec	UL 746A

Flammability	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit	Test Method
Flame Rating (1.6 mm)	V-0	--		UL 94
Glow Wire Flammability Index				IEC 60695-2-12
--	--	850 to 960	°C	
2.0 mm	960	--	°C	
Glow Wire Ignition Temperature	--	772 to 960	°C	IEC 60695-2-13
Oxygen Index				
--	--	28 to 34	%	ASTM D2863
--	26	24 to 29	%	ISO 4589-2

Optical	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit	Test Method
Gloss	--	83 to 91		ASTM D2457
Opacity	--	76 to 93	%	ASTM D589
Haze	--	0.500 to 4.93	%	ASTM D1003

Injection	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit
Drying Temperature	--	79 to 81	°C
Drying Time	--	1.9 to 3.0	hr
Suggested Max Moisture	--	0.010 to 0.10	%
Suggested Max Regrind	--	10	%
Rear Temperature	--	183 to 213	°C
Middle Temperature	--	185 to 221	°C
Front Temperature	--	190 to 239	°C
Nozzle Temperature	--	196 to 220	°C
Processing (Melt) Temp	--	188 to 250	°C
Mold Temperature	--	33 to 52	°C
Injection Pressure	--	84.9 to 87.6	MPa
Holding Pressure	--	34.1 to 45.4	MPa
Back Pressure	--	0.0100 to 1.11	MPa
Screw Speed	--	44 to 82	rpm
Cushion	--	7.50 to 9.56	mm

Injection Notes

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Extrusion	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit
Drying Temperature	--	59 to 100	°C
Drying Time	--	1.5 to 3.1	hr
Suggested Max Regrind	--	8	%
Cylinder Zone 1 Temp.	--	140 to 235	°C
Cylinder Zone 2 Temp.	--	189 to 260	°C
Cylinder Zone 3 Temp.	--	184 to 280	°C
Cylinder Zone 4 Temp.	--	208 to 243	°C
Cylinder Zone 5 Temp.	--	202 to 242	°C

Extrusion	ADDIFLAM® VHI 53063 X	Generic PP, Unspecified	Unit
Adapter Temperature	--	230 to 232	°C
Melt Temperature	--	199 to 305	°C
Die Temperature	--	200 to 252	°C

Extrusion Notes

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Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] Typical properties: these are not to be construed as specifications.

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