

Halguard® E 59001

Teknor Apex Company - Polyolefin

Saturday, September 14, 2024

General Information

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Latin America • North America	
Features	• Electrically Insulating • Filled • Flame Retardant	• Good Electrical Properties • Halogen Free • Low Smoke Emission	• UV Stabilized
Agency Ratings	• UL 94	• UL AATJ2	
Regulatory Statement	• Due to the frequent updates to regulations, specifically, California Proposition 65, EU REACH SVHCs, and RoHS, please contact Teknor Apex for the most up to date compliance statement, or refer to section 15 of the product SDS.		
Appearance	• Black	• Colors Available	• Natural Color
Forms	• Pellets		
Processing Method	• Wire & Cable Extrusion		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.12	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/10.0 kg)	1.6	g/10 min	ASTM D1238
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Break)	14.5	MPa	ASTM D638
Tensile Elongation (Break)	530	%	ASTM D638
Flexural Modulus	125	MPa	ASTM D790
Elastomers	Nominal Value	Unit	Test Method
Tear Strength ²	39.6	kN/m	ASTM D624
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 15 sec)	85		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Continuous Use Temperature	125	°C	ASTM D794
Brittleness Temperature	-49.0	°C	ASTM D746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			ASTM D257
23°C	4.8E+14	ohms·cm	
50°C	7.3E+13	ohms·cm	
Dielectric Constant (1 MHz)	2.89		ASTM D150
Dissipation Factor (1 MHz)	1.2E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.6 mm)	V-0		UL 94
Oxygen Index	30	%	ASTM D2863

Revision Date: 5/22/2024

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Additional Information

Oil Resistance (0.030" plaques), IRM 902: 168 hours at 60°C UL62

- Retention of Tensile Strength (%): 82%
- Retention of Elongation at Break (%): 92%

Acid Gas Emission:

- Halogen Acid Gas Content, % : <0.5% IEC 60754-1
- pH : 8.1 IEC 60754-2
- Conductivity, $\mu\text{S}/\text{mm}$: 27.2 IEC60754-2

Sunlight Resistance (Exposed for 720 hours in a Twin Carbon Arc Weatherometer) UL1581

- Retention of Tensile Strength (%): 98%
- Retention of Elongation at Break (%): 104%

Properties Determined from Wire (Tested from 18 AWG wire with 0.016" (0.406 mm) thick insulation)

VW-1 Vertical Flame Test: Pass as 0.030" (0.76mm) thick jacket UL1581

Cable Flame Test: Pass as 0.030" (0.76mm) thick jacket UL1581

Smoke Density, % optical transmission: 69% IEC61034

Deformation at 150°C, % : 10% ... UL1581

Short-Term Insulation Resistance in Water at 15°C, G?-m: 32.6 UL62

Heat Shock at 150°C: Pass UL62

Cold Bend at -40°C: Pass UL62

Data Sheet Applies to Colors Listed Below:

Natural (1060565)

Black 1 (1091642)

2/24-1c

Processing Information

Extrusion	Nominal Value	Unit
Melt Temperature	205	°C

Notes

¹ Typical properties: these are not to be construed as specifications.

² Die C

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