

ECCOH 5549/1

Product Description

ECCOH™ 5549/1 is a low smoke and fume flame retardant non halogen sheathing solution. Designed for Special Cable demanding very high fire performance, this solution combines excellent flame retardant properties thanks to high char forming with good processing and enhanced mechanical and thermal characteristics.

General		
Material Status	Commercial Active	
Regional Availability	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe 	<ul style="list-style-type: none"> North America South America
Features	<ul style="list-style-type: none"> Non Halogen Low Smoke generation Low Toxicity & low corrosivity Environmentally friendly 	<ul style="list-style-type: none"> High char forming Good mechanical performance Enhanced heat resistance
Uses	Wire&Cable	
Forms	Pellets	

Technical Properties

Physical Properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Density, 23°C	1.6 g/cm ³	1.6 g/cm ³	ISO 1183-1 (ASTM D792)
MFR (150°C/21.6kg)	3 g/10min	3 g/10min	ISO 1133, (b)
Mooney viscosity, ML (1+4) 140°C	55	55	DIN53523 (AS TM D1646)
Hardness Shore D 15 Second	51	51	ISO R 868 (ASTM D2240)
Mechanical Properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Tensile Strength 200mm/min	1740 psi	12 MPa	IEC 60811-501
Retention after heat ageing 10d at 110°C	117%	117%	IEC 60811-401
Elongation at break 200mm/min	170%	170%	IEC 60811-501
Retention after heat ageing 10d at 110°C	91%	91%	IEC 60811-401
Tear Strength		4.7 N/mm	BS 6469:99-1
Hot pressure test 4h at 80°C	23%	23%	IEC 60811-508
Cold elongation -25°C	54%	54%	IEC 60811-505
Flammability	Typical Value(Imperial)	Typical Value (SI)	Test Method
Oxygen index ¹	44%	44%	ISO 4589-2(ASTM D2863)
Flammability temperature index ²	608°F	320°C	ISO 4589-3
Halogen content	0	0	IEC 60754-1
Acid Gas Emission			IEC 60754-2
pH	4.7	4.7	
Conductivity (max)	0.82 µS/mm	0.82 µS/mm	
Smoke density – Flaming mode (1mm) Ds max	45	45	ASTM E-662
Smoke density – Non Flaming Mode (1mm) Ds max	212	212	ASTM E-662
Electrical properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Volume resistivity (23°C-50%HR)	1.6 x 10 ¹⁴ Ω cm	1.6 x 10 ¹⁴ Ω cm	IEC 60093 (ASTM D257)
Surface resistivity (23°C-50%HR)	1.9 x 10 ¹⁵ Ω	1.9 x 10 ¹⁵ Ω	IEC 60093 (ASTM D257)

¹ measured on type IV specimen

² measured on large non self supporting specimen

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Other properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Water absorption after 10d at 70°C	0.035 mlb/in ²	2.5 mg/cm ²	IEC 60811-402
Water absorption, 7d at 70°C	0.033 mlb/in ²	2.3 mg/cm ²	BS 6469:99-1
Tensile Strength Retention	89%	89%	
Elongation at Break Retention	104%	104%	
Oil ageing, IRM 902 oil, 4h at 70°C			IEC 60811-404
Tensile Strength Retention	70%	70%	
Elongation at Break Retention	123%	123%	

Recommended processing parameters

Extrusion	Cylinder Temperatures							
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Adapter	Head	Die
Temperature (Imperial)	248°F	266°F	284°F	302°F	320°F	329°F	320°F	329°F
Temperature (SI)	120°C	130°C	140°C	150°C	160°C	165°C	160°C	165°C

We recommend you not to exceed melting temperature of 180°C (356°F)

ECCOH™ 5549/1 is a formulation allowing PVC/PE extruders to be used.

For special extruder or application, please contact PolyOne for detailed processing information.

Pre-Drying

Our formulation is supplied in aluminium foil lined bags or octa-boxes and, providing the packaging has not been disturbed, the formulation does not require pre-drying. If the formulation has been stored in a moist environment over a long period then Pre-drying at approximately 70°C (158°F) for 4 hours is recommended in dehumidifying dryers.

Colorability

ECCOH™ 5549/1 is a colourable formulation. A full range of polymer specific colour masterbatches are available for ECCOH™ solutions within PolyOne.

Shelf life

Our material is supplied in aluminium foil lined bags or octa-boxes and, based upon our experience, this ensures a minimum shelf life of one year - providing the bag is not opened and kept in a cool (0°C < Temp. < 25°C) dry environment.

PolyOne advises customers to conduct a full homologation program on their final cable construction to confirm acceptability.

CONTACT INFORMATION

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