

ECCOH™ 5943

Product Description

ECCOH™ 5943 is Low Smoke and Fume non Halogen solution. Rated at 125°C, ECCOH™ 5943 crosslinked combines outstanding flexibility with high resistance to heat and good flame retardancy. Additional to that colour & additive master batch package can be recommended to ensure UV resistance.

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"> Excellent processing Good heat resistance High flexibility Good Flame retardant
Uses	Wire&Cable	
Forms	Pellets	

Technical Properties

Physical Properties	Typical Value (Imperial)	Typical Value (SI)	Test Method
Density, 23°C	1.47 g/cm ³	1.47 g/cm ³	ISO 1183-1 (AST M D792)
MFR (150°C/21.6kg)	6 g/10min	6 g/10min	ISO 1133, (b)
Mooney viscosity, ML (1+4) 140°C	39	39	DIN53523 (ASTM D1646)
Hardness Shore D 15 Second	38	38	ISO R 868 (ASTM D2240)
Mechanical Properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Tensile Strength 200mm/min, thermoplastic	1595 psi	11 Mpa	IEC 60811-1-1
Elongation at break 200mm/min, thermoplastic	220 %	220 %	IEC 60811-1-1
Heat ageing 7d at 160°C crosslinked **			IEC 60811-1-2
Tensile Strength Retention	109%	109%	
Elongation at Break Retention	92%	92%	
Hot pressure test 4h at 80°C, thermoplastic	27 %	27%	IEC 60811-3-1
Cold elongation -40°C, thermoplastic	85%	85%	IEC 60811-1-4
Flammability	Typical Value(Imperial)	Typical Value (SI)	Test Method
Oxygen index ¹	32 %	32 %	ISO 4589-2(ASTM D2863)
Flammability temperature index ²	500 °F	260 °C	ISO 4589-3
Halogen content	0	0	IEC 60754-1
Acid Gas Emission			IEC 60754-2
pH	4.7	4.7	
Conductivity (max)	1 µS/mm	1 µS/mm	
Smoke density – Flaming mode (1mm) Ds max	50.4	50.4	ASTM E-662
Smoke density – Non Flaming Mode (1mm) Ds max	198	198	ASTM E-662
Electrical Properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Volume resistivity (23°C-50%HR)	5.9x 10 ¹⁵ Ω cm	5.9x 10 ¹⁵ Ω cm	IEC 60093 (ASTM D257)
Surface resistivity (23°C-50%HR)	1.7x 10 ¹⁵ Ω	1.7x 10 ¹⁵ Ω	IEC 60093 (ASTM D257)

¹ measured on type IV specimen

² measured on large non self supporting specimen

** measured on 4 mm² cable extruded with 3% OnCap™ 6570DS55. These properties were measured once within PolyOne laboratory. However, it is mandatory that customers should conduct their own evaluations to ensure any compliance on cable.

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Other properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Water absorption,1000h at 80°C, crosslinked **			IEC 60811-1-1
Tensile Strength Retention	99%	99%	
Elongation at Break Retention	96%	96%	
Oil IRM 902 oil, 4h at 70°C, thermoplastic			IEC 60811-2-1
Tensile Strength Retention	64%	64%	
Elongation at Break Retention	125%	125%	
Oil IRM 902 oil, 4h at 70°C, crosslinked **			IEC 60811-2-1
Tensile Strength Retention	76%	76%	
Elongation at Break Retention	106%	106%	

Temperature profile:

Extrusion	Cylinder Temperatures					Adapter	Head	Die
	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5			
Temperature (Imperial)	230F	284F	302F	311F	311F	329F	329F	338F
Temperature (SI)	110°C	140°C	150°C	155°C	155°C	165°C	165°C	170°C

We recommend you not to exceed melting temperature of 170°C (338F)

ECCOH™ 5943 is a solution allowing PVC/PE extruders to be used.

For any extruder or application questions, 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 material has been stored in a moist environment over a long period then or if the material must be crosslinked via Dry Silane technology, then pre-drying at approximately 70°C (158F) for 2 hours is recommended in dehumidifying dryers.

Colorability

ECCOH™ 5943 is a colourable solution. A full range of polymer specific colour masterbatches are available for ECCOH™ solutions within PolyOne.

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

CONTACT INFORMATION

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