PolyOne

Preliminary Technical Data sheet

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ECCOH™ 5286

Product Description

ECCOH™5286 is a low smoke and fume non halogen flame retardant solution designed for railway insulation applications. It combines good cold properties and oil resistance performances at high temperature in standard oil as well as good flame retardancy.
ECCOH™5286 needs to be crosslinked via E-beam technology to achieve high temperature resistance.

General		
Material Status	*Development prototype*	
Regional Availability	• *Africa & Middle East* • *Asia Pacific* • *Europe*	• *North America* • *South America*
Features	• ***Non Halogen*** • ***Low Smoke generation*** • ***Low Toxicity &low corrosivity*** • ***Environmentally friendly***	• ***Excellent processing*** • ***Good heat resistance*** • ***Good flame retardancy***
Uses	*Wire&Cable*	
Forms	*Pellets*	

Technical Properties

Physical Properties	Typical Value(Imperial)	Typical Value (SI)	Test Method
Density (23℃)	1.48 g/cm^3	1,48 g/cm^3	ISO 1183-1 (ASTM D792)
MFR (150℃/21.6kg)	3 g/10min	3 g/10min	ISO 1133-1
Mooney viscosity, ML (1+4) 140℃	49	49	DIN53523 (ASTM D1646)
Hardness Shore D (15 Second)	46	46	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 60811-501
Elongation at break *200mm/min, thermoplastic*	215%	215%	IEC 60811-501
Tensile Strength *200mm/min, crosslinked* [2]	1740 psi	12 MPa	IEC 60811-501
Retention after heat ageing, 10d at 120℃	115%	115%	IEC 60811-401
Elongation at break *200mm/min, crosslinked* [2]	130%	130%	IEC 60811-501
Retention after heat ageing, 10d at 120℃	91%	91%	IEC 60811-401
Cold elongation -40˚C, *crosslinked* [2]	45%	45%	IEC 60811-505
Flammability	**Typical Value(Imperial)**	**Typical Value (SI)**	**Test Method**
Oxygen index [1]	36%	36%	ISO 4589-2(ASTM D2863)
Other Properties	**Typical Value(Imperial)**	**Typical Value (SI)**	**Test Method**
IRM 902 oil**,** 3d at 100℃, *crosslinked* [2]			IEC 60811-404
Tensile Strength Retention	72%	72%	
Elongation at Break Retention	77%	77%	
IRM 903 oil, 7d at 70℃, *crosslinked* [2]			IEC 60811-404
Tensile Strength Retention	76%	76%	
Elongation at Break Retention	73%	73%	

Oxalic Acid 1N, 7d at 23°C, *crosslinked* [2]			IEC 60811-404
Tensile Strength Retention	93%	93%	
Elongation at Break Retention	97%	97%	
Hydroxide sodium 1N, 7d at 23°C, *crosslinked* [2]			IEC 60811-404
Tensile Strength Retention	90%	90%	
Elongation at Break Retention	97%	97%	

[1] *measured on type IV specimen and ignition procedure A*
[2] *measured on samples crosslinked at 120kGy.*

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.
Data are typical values and must not to be construed as specification limits

Recommended processing parameters

Extrusion	***Cylinder Temperatures***							
	Zone 1	***Zone 2***	***Zone 3***	***Zone 4***	***Zone 5***	***Adapter***	***Head***	***Die***
Temperature (Imperial)	266°F	284°F	311°F	320°F	329°F	329°F	329°F	338°F
Temperature (SI)	130°C	140°C	155°C	160°C	165°C	165°C	165°C	170°C

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

***ECCOH™ 5286* 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™ 5286 is a colourable formulation. A full range of polymer specific colour masterbatches are available for ECCOH™ solutions within PolyOne.

Shelf life
ECCOH solutions are supplied in aluminium foil lined bags or octa-boxes and, based upon 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

Americas
U.S. – Avon Lake, Ohio
+1 440 930 1000

Brasil – Campinas
+55 19 3206 0561

ASIA
China – Shanghai
+86 (0) 21 5080 1188

India – Mumbai
+91 22 2564 0750
+91 9820 194 220

Europe
Belgium – Assesse
+32 (0) 830 660 211