



ELECTRIC CABLE COMPOUNDS, INC.

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AQUAGRAFT 1-5150

150° C RATED MOISTURE CROSS LINKABLE XLPO SYSTEM CONSISTING OF GRAFTED XLPO BASE AND FLAME RETARDANT CATALYST MASTER BATCH (RoHS COMPLIANT)

DESCRIPTION

AquaGraft 1-5150 is a moisture crosslinkable, natural, XLPO grafted polymer system that is composed of PEMC-1 and FMB-5150 FR/catalyst master batch. These two components are supplied in pellet form, and when blended in the proper ratios, will meet various low voltage and specialty wire and cable requirements. AquaGraft 1-5150 will cure with exposure to moisture at ambient temperature with time (depending on cable construction and environmental conditions). AquaGraft 1-5150 can also be cured at accelerated rates by exposure to sauna or hot water after extrusion.

APPLICATIONS

AquaGraft 1-5150 is designed for use in UL/CSA 150°C rated AWM cable applications. These two components, when blended in a 70% PEMC-1/30% FMB-5150 blend ratio, will yield a finished compound which will allow the cable to pass various industry recognized requirements and be suitable for flame retardant 150°C applications.

SPECIFICATIONS

When extruded and cured consistent with standard safe wire and cable industry practices, cable insulated with the correct component ratios will comply with the requirements as specified in the following standards:

UL 150 C Styles 3321

CSA CL-1503 Class 1, Group A/B single conductor 600v XLPE

FT-2 Flame Rating, UL Horizontal Flame

TYPICAL PHYSICAL-MECHANICAL PROPERTIES

AquaGraft 1-5150 (70% PEMC-1/30% FMB 5150 blend)

	RESULTS	REQUIREMENTS
Specific Gravity, gram/cm ³ :	1.07	-
Tensile Strength, psi (MPa):	2270 (15.6)	2000
Elongation, %:	348	300
Hot Creep Elongation % 15 minutes at 150°C	80	150

THERMAL STABILITY

7 days in 180°C air oven:

Retained Tensile, %:	98	80
Retained Elongation, %:	91	80

PROCESSING

AquaGraft 1-5150 is engineered for processing on conventional thermoplastic extrusion equipment. It is recommended that these products be processed using a greater than 20:1 extruder with a high shear screw with adequate mixing sections. The compound supplied is in the cleanest state and is of the highest quality;

however, the use of a breaker plate with a screen pack of approximately 20/40 mesh is recommended for optimal rheological flow and steady back pressure.

Pre-heating of the conductor is recommended depending on cable construction and specific processing conditions.

Pre-drying of the FMB-5150 is generally recommended prior to use for 4 hrs. at 120F.

When extruded in proper ratios, this system will cure with exposure to moisture at ambient temperatures, however, accelerated cure rates may be achieved with exposure of extruded cable to water bath or steam sauna. Cure rates are dependent on cable wall thickness and as such adequate cure times may differ based on cable constructions.

The following conditions are given as a guide for processing:

Temperature Profile:	°F	°C
Zone 1 (feed):	260-280	127-138
Zone 2:	260-280	127-138
Zone 3:	260-280	127-138
Zone 4:	260-280	127-138
Crosshead:	280-300	138-149
Die:	280-300	138-149

DELIVERY

Form: Pellets

Package: PEMC-1
1500 pounds (680.4 Kg) per box
200 pounds (90.7 Kg) per fiber drum
Foil Sealed Liners.

Package: FMB 5150
2200 pounds (997.9 Kg) per box
200 pounds (90.7 Kg) per fiber drum
PE Liners

CERTIFICATION

Certified Test Results including physical test data are included with each shipment.

HANDLING

To ensure health and safety, Material Safety Data Sheets (MSDS) are available and should be consulted prior to use.

STORAGE

A high level of care in storage to minimize exposure to moisture is recommended to ensure that there is no pre-cure or gelling of the PEMC-1 grafted polymer. Component containers should be stored at temperatures below 50°C (120°F) in a dry area for not more than 6 months. Once opened, PEMC-1 must be used immediately to avoid any premature gelling due to environmental moisture.

Information given herein has been compiled by Electric Cable Compounds from sources considered reliable and is accurate to the best of our knowledge; however it is not guaranteed to be so. It is the user's responsibility to determine the suitability of any material for a specific purpose, to adopt the necessary safety precautions, and provide appropriate warning and safe handling procedures to handlers and users.