



AQUAGRAFT® 1-6008R

MOISTURE CROSSLINKABLE MULTI-COMPONENT SYSTEM BASED ON GRAFTED XLPO POLYMER FOR LOW VOLTAGE WIRE APPLICATIONS (RoHS COMPLIANT)

DESCRIPTION

AquaGraft® 1-6008R is a moisture crosslinkable, natural, XL grafted polymer system that is composed of PEMC-1 grafted base polymer, and FMB 6008R 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® 1-6008R will cure with exposure to moisture at ambient temperature over time (depending on cable construction and environmental conditions). AquaGraft® 1-6008R can also be cured at improved rates if exposed to sauna or hot water after extrusion.

APPLICATIONS

AquaGraft® 1-6008R is designed for use in various low voltage applications up to 2kV, including building wire, control cables, submersible pump cables, and other specifications requiring superior thermal, mechanical, and electrical properties. This two-component system, when blended in a 40% PEMC-1 and 60% FMB-6008R blend ratio, will yield a finished compound which will allow the cable to pass various industry recognized flame tests and perform well for UL-44 wire applications.

SPECIFICATIONS

When extruded and cured consistent with standard safe wire and cable industry practices, cable insulated with AquaGraft® 1-6008R are tested in accordance to the following industry standards:

UL 44 XHH, XHHW, XHHW-2, RHH, RHW, RHW-2, and SIS
CSA 22.2 No. 38-05 for RW-75, RWU-75, R-90, RW-90
FT-4 Flame, UL VW-1

TYPICAL PHYSICAL-MECHANICAL PROPERTIES

Wire Samples #14 AWG 30 mil wall

AquaGraft® 1-6008R (40/60 blend)

	RESULTS	REQUIREMENTS
Specific Gravity, gram/cm ³ :	1.3	-
Tensile Strength, psi:	1856	1500 min.
(MPa):	(12.8)	(10.3) min.
Ultimate Elongation, %:	293	150 min.
100% Modulus, psi:	1798	NR
(MPa):	(12.4)	
Hot Creep Elongation % 15 minutes at 150°C:	20	100 max.



THERMAL STABILITY

7 days in 121°C air oven:

Retained Tensile, %:	94	75 min
Retained Elongation, %:	85	75 min.

7 days in 158°C air oven:

Retained Tensile, %:	100	NR
Retained Elongation, %:	101	NR

OIL IMMERSION

96 Hours @ 100°C, IRM 902:

Retained Tensile, %:	52	50 min.
Retained Elongation, %:	60	50 min.

PROCESSING

AquaGraft® 1-6008R is engineered for processing on conventional extrusion equipment. It is recommended that these products be processed using a greater than 20:1 extruder with a 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 or 20/60 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-6008R is generally recommended prior to use for 4 hrs. at 120F, or to a -40°C dew point.

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:	280-300	138-149
Crosshead:	300-320	149-160
Die:	300-320	149-160



DELIVERY and STORAGE

Component containers should be stored at temperatures below 40°C (105°F) in a dry area and consumed within the timeframe recommended below:

Form: Pellets

Package: PEMC-1
1500 pounds (680.4 Kg) per box
200 pounds (90.7 Kg) per fiber drum
Foil Sealed Liners.
Use within 6 months of manufacturing date

A high level of care in storage to minimize exposure to moisture is recommended to ensure that there is no degradation of the PEMC-1. Once opened, PEMC-1 should be consumed immediately to avoid any premature gelling due to environmental moisture.

Package: FMB 6008R
2000 pounds (907.2 Kg) per box
250 pounds (113.4 Kg) per fiber drum
PE Liners
Use within 12 months of manufacturing date

CERTIFICATION

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

HANDLING

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

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.

R-01, 04.23.2020