



PEXIDAN® V/T-2UV

Low density moisture curable polyethylene system for low voltage building wire, control cable, photovoltaic and cable tray applications (UL styles SIS, XHH, XHHW, XHHW-2, RHH, RHW, RHW-2, PV VW-1; 'SunRes' and -40°C).

DESCRIPTION

PEXIDAN® V/T-2UV is a low density flame-retardant XLPE system curable by moisture and consists of a silane-grafted base compound A-3001 and a catalyst masterbatch CAT-083FR-UV. Mixed and extruded in the proper proportions (50/50), the two components result in a material that is curable by exposure to hot water. PEXIDAN® V/T-2UV is halogenated but is RoHS-compliant. **Insulation made with this system may be marked SUNRES or 'SR' in all colors and in all sizes per UL44, UL4703 and CSA C22.2 #38.** This product is also CSA-listed for RW90, RWU90, RPV90 RPVU90 and CIC, 'SR' and -40C rated.

Physical and Mechanical Properties	Typical Value	Unit	Test Method
- Specific gravity at 23°C	1.30	g/cm ³	ASTM D792
- MFR, 190°C/2.16 kg (base compound)	1.0	g/10 min	ASTM D1238
- Mechanical properties: Tensile strength at break Elongation at break	1930 300	psi %	UL 1581 / UL 2556
- Mechanical Properties: after thermal ageing (7d @121°C): Tensile strength at break Elongation at break After 60 day oil @75°C Tensile strength at break Elongation at break After 30 day gasoline @23°C Tensile strength at break Elongation at break	1950 300 1815 290 1790 320	psi % psi % psi %	UL 1581 / UL 2556
- Weather-o-meter testing - 720 hr. exposure - SUNRES Tensile strength after exposure Elongation after exposure	1950 275	psi %	UL 1581 / UL 2556
- Deformation	9	%	UL 1581 / UL 2556
- Hot set test, 15 minutes @ 150°C: Elongation under load	45	%	SACO AEI DWI-QA-4007 based on ICEA T-28-562
- Crushing Test	1360	lb	UL 1581 / UL 2556
- Dielectric Constant (Relative Permittivity) @ 90°C	3.1		UL 1581 / UL 2556
- Dielectric Breakdown After glancing impact	30 21	kV	UL 1581 / UL 2556
- Degree of Crosslinking	60	%	ASTM D2765
- FV-2 / VW-1 Flame Test	Pass		UL 1581 / UL 2556
- Limiting Oxygen Index (LOI)	27	%	ASTM D2863

Typical values reported above (except MFR) are obtained from a 14 AWG wire with 30-mil wall thickness, cured in hot water

PROCESSING

The pre-grafted base PEXIDAN® A-3001 must be added with type CAT-083FR-UV flame retardant catalyst masterbatch in the proportion 50:50 by weight. We strongly suggest dosing the two components directly in the throat of the extruder using a gravimetric or loss-in-weight feeder. In order to prevent scorching the grafted compound and the catalyst masterbatch must be stored separately and mixed just prior to consumption.

PEXIDAN® V/T can be processed with PE single screw extruders having proper temperature control and a good mixing screw (2.5:1 ratio at least).

The following temperature profile is suggested:

barrel zones:	from 310 to 340°F
head:	365°F
die:	365°F
screw:	neutral

These conditions may depend on the equipment being used. It is recommended using conveyors and tools shaped in order to prevent stagnation in the head. In case of prolonged shutdown, purge the extruder with LDPE.

Curing can be done in the following ways:

- by immersion in hot water at 70-95°C
- by exposure to low pressure steam

In all cases curing time depends on wall thickness, temperature, relative humidity and quantity of wire on the reel.

A wide range of commonly used colour masterbatches based on LDPE are available. A use level of 1.5% by weight should give an acceptable colour but this will be dependent upon the concentrate itself. Levels of concentrates should be kept to a minimum because they can detract from performance. It is recommended that the catalyst and colour masterbatches be dried prior to usage 4-6 hours at 60°C (150°F) using a desiccant dryer.

STORAGE

Due to the moisture sensitivity of PEXIDAN®, SACO AEI Polymers suggests that the following points should be considered when storing the materials:

- Ambient temperature generally not exceeding 30°C
- Avoid direct exposure to sunlight and weathering
- Once the package has been opened it is suggested that the entire contents be used.

PACKAGING

The physical form of both PEXIDAN® A-3001 and CAT-083FR-UV is free-flowing pellets, and are available in 1500-lb (680-kg) and 2000-lb (907-kg) gaylords respectively, or in 300-lb (136-kg) fibre drums.

Our technical team is at your disposal for further information and assistance.

The technical information contained herein is, to the best of our knowledge, believed to be accurate. However, SACO AEI Polymers makes no guarantee or warranty, and does not assume any liability, with respect to the accuracy or completeness of such information. Suitability of material for a specific final end use is the sole responsibility of the user. The data contained herein are typical properties only and are not be used as specifications.

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