PEXIDAN® R/T-UV2

Low density moisture curable polyethylene compound for low voltage building wire insulation (CSA RW90, RWU90, AC90, TECK90 - Sunlight Resistant).

DESCRIPTION

PEXIDAN® R/T-UV2 is a low density XLPE system curable by moisture and consists of a silane pre-grafted base compound A-3001 and a catalyst masterbatch CAT-288UV. Mixed and extruded in the proper proportions (95:5), the two-component blend results in a material that is curable by exposure to 70-95°C hot water or even ambient moisture. Insulation made with PEXIDAN® R/T-UV2 is rated to -40ºC and may be marked Sunlight Resistant ("-SR") in all colors and in all sizes per CSA C22.2 No. 38. PEXIDAN® R/T-UV2 is suitable for CSA Type RPV90 and RPVU90 photovoltaic wire per C22.2 No. 271. PEXIDAN® R/T-UV2 is non-flame-retardant, halogen-free and RoHS-compliant.

Physical and Mechanical Properties	Typical Value	Unit	Test Method
- Specific gravity at 23°C	0.92		ASTM D792
- Mechanical properties: Tensile strength at break Elongation at break	 2450 360	 psi %	CSA C22.2 No. 38
- Mechanical Properties: after thermal ageing (7d @121°C): Retention of Tensile strength at break Retention of Elongation at break	 >95 >90	 % %	CSA C22.2 No. 38
- Mechanical Properties after xenon-arc exposure (1000 hrs.) Retention of Tensile strength at break Retention of Elongation at break	 >95 >95	 % %	CSA C22.2 No. 38
- Low Temperature Brittleness Point (LTBP)	Below -75	°C	ASTM D746
- Deformation	5	%	CSA C22.2 No. 38
- Shrink back	0	mm	CSA C22.2 No. 38
- Insulation Resistance @15°C After 12 weeks @90°C	200,000 24,000	GΩ-meter	CSA C22.2 No. 38
- Hot Elongation test, 15 min @ 150°C, 0.2 N/mm2 load: Elongation under load	40	%	SACO AEI DWI-QA-4007 based on ICEA T-28-562
- Degree of Crosslinking	72	%	ASTM D2765

Typical values reported above (except MFR) are obtained from 14 AWG solid conductor samples with a 30-mil wall, cured in hot water (6 hours @ 95°C).

PROCESSING

The pre-grafted base PEXIDAN® A-3001 must be added with type CAT-288UV catalyst masterbatch in the proportion 95:5 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® R/T-UV 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
- ambient atmospheric moisture

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 color masterbatches based on LDPE are available. A use level of 1.5% by weight should give an acceptable color 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 color 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-288UV is free-flowing pellets, and are available in 1500-lb (680-kg) gaylords or in 300-lb (136-kg) fibre drums.

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

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