



PEXIDAN® H/T

Low density moisture curable polyethylene compound
for 125°C/150°C appliance wire and coil-lead wire applications.

DESCRIPTION

PEXIDAN® H/T is a low density flame-retardant XLPE system curable by moisture and consists of a silane pre-grafted base compound A-3001 and a flame-retardant catalyst masterbatch CAT-012FR. Mixed and extruded in the proper proportions (67/33) this mixture results in a material curable by exposure to 70-95°C hot water or even ambient moisture. PEXIDAN® H/T is listed with CSA for AWM and CL1251, CL1252 & CL1503, and for UL AWM styles 3173 and 3321. See below for a more complete list of suitable AWM styles. PEXIDAN® H/T is halogenated but is RoHS-compliant.

Physical and Mechanical Properties	Typical Value	Unit	Test Method
- Specific gravity at 23°C	1.08		ASTM D792
- Mechanical properties: Tensile strength at break Elongation at break	2300 300	psi %	CSA C22.2 No. 210.2
- Mechanical Properties: after thermal ageing (7d @ 158°C): Tensile strength at break Elongation at break After thermal ageing (7days @ 180°C): Tensile strength at break Elongation at break	2200 300 2200 300	psi % psi %	CSA C22.2 No. 210.2
- Dielectric Constant , 1 MHz – 100 MHz range	2.37		
- Dissipation Factor @ 1 MHz @ 100 MHz	0.0012 0.0008		ASTM D150
- Horizontal Flame Test	Pass		CSA FT-2 / UL 758
- Oxygen Index (LOI)	25	% Oxygen	ASTM D2863
- Deformation	10	%	UL 758
- Hot Elongation, 15 minutes @150°C, 0.2 N/mm ² load: Elongation under load	45	%	SACO AEI DWI-QA-4007 based on ICEA T-28-562
- Degree of Crosslinking	68	%	ASTM D2765
- Low Temperature Brittleness Point (LTBP)	Below -50	°C	ASTM D746

Typical values reported above are obtained from 20 AWG wire with wall thickness of 0.015", cured in hot water (6 hours @ 95°C).

UL AWM Styles

In addition to common AWM styles 3173 and 3321, PEXIDAN® H/T is suitable for the following AWM XLPE styles: 3176, 3168, 3182, 3194, 3195, 3196, 3199, 3271, 3289, 3290, 3295, 3296, 3297, 3298, 3300, 3343, 3344, and 3578.

PROCESSING

The pre-grafted base PEXIDAN® A-3001 must be added with type CAT-012FR flame retardant catalyst masterbatch in the proportion 67:33 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® H/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
- 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 colour 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-012FR 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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