

POLIDAN[®] EC/110

Low density polyethylene based compound crosslinkable by exposure to moisture for low voltage power and signal cable insulation

Polidan[®] EC/110 is a low density polyethylene based compound crosslinkable by moisture; it consists of a silane pregrafted base compound (Sioplas[®] method) to be used with a catalyst masterbatch.

Standard complying: IEC 60502 XLPE, IEC 60092/351, CEI 18-16/351, BS 7655 GP8, VDE 0276 2XI1, HD 604 2XI1

In order to prevent prescorching the pregrafted compound and the catalyst masterbatch must be stored separately and mixed only when used.

	typical value	unit	test method	
physical and mechanical properties	- Density at 23°C	0.92	g/cm ³	ASTM D 792
	- Shore D hardness	51	-	ISO R 868
	- M.F.I., 190°C/2.16 kg	0.7	g/10'	Padanaplast
	- Unaged mechanical properties:			
	tensile strength	21.6	N/mm ²	IEC 60811
	elongation at break	500	%	
	- Mechanical properties after ageing in air oven, 168 hours at 135°C:			
	variation on tensile strength	+15	%	IEC 60811
	variation on elongation at break	-8	%	
	- Mechanical properties after ageing in air oven, 240 hours at 150°C:			
	bending test	no cracks	-	IEC 60811
	- Hot set test, 15' at 200°C, 0.2 N/mm ² :			
	elongation under load	70	%	IEC 60811
	permanent elongation after cooling	0	%	
- Water absorption, 24 hours at 100°C	0.5	mg/cm ²	IEC 60811	
- Water absorption, 336 hours at 85°C	0.5	mg/cm ²	IEC 60811	
- Shrinkage test, 1 hour at 130°C:				
maximum shrinkage	< 4	%	IEC 60811	
electrical properties	- Volume resistivity at 20°C	4.1 E 15	ohm x cm	IEC 60502
	- Volume resistivity at 90°C	2.7 E 15	ohm x cm	IEC 60502
	- Insulation constant at 20°C	15000	Mohm x km	IEC 60502
	- Insulation constant at 90°C	10000	Mohm x km	IEC 60502

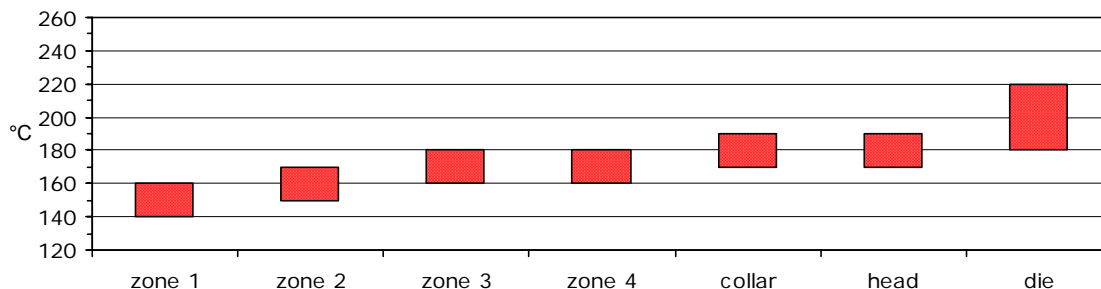
tests made on pressed plate or extruded specimen crosslinked in hot water after addition of 3% by weight of Catalyst CT/1

Processing

Polidan® EC/110 pregrafted base must be added with Catalyst CT/1 masterbatch at 3% by weight. Blending must be done just before use; dosing the two components directly in the extruder hopper is suggested.

The pregrafted base compound is sensible to moisture; open bags must be used within few hours.

Polidan® EC/110 can be processed with standard PVC extruders having a L/D ratio of 20-30 and an adequate barrel thermoregulation. The following temperature profile is suggested:



Curing can be done in the following ways:

- by immersion in hot water at 60-70°C
- by exposure to low pressure steam (about 0.15 bar)
- by exposure in ambient at 20-25°C, 50-70% R.H. for some days

In all cases curing time depends on insulation thickness; for 0.7-1.2 mm wall thickness 2-4 hours are generally necessary if forced curing is made; in case of self curing, time depends also on the specific ambient conditions.

Colouring can be made with PE based masterbatches by addition at 0.5-1% (approx.) by weight; predrying of colour masterbatch is suggested if moisture absorption occurred during storage.

Storage

The product should be stored under the following conditions:

- closed and unbroken bags
- ambient temperature not exceeding 30°C
- avoid direct exposure to sunlight and weathering

The product could undergo alterations due to extended period of storage. Padanaplast suggests using it within six months from the production date printed on the packaging.

Padanaplast accepts no liability of any kind in case the above mentioned conditions are not fulfilled.

Packaging

Polidan® EC/110 is available in 25 kg moisture resistant bags on 1375 kg pallet.

Our Technical Service is at your disposal for further information and advice upon the starting stage and also for any eventual necessity during the course of the product use.

Disclaimer

The data and numerical results contained in this document are provided for the sake of general information and are given in good faith. They reflect the state of our knowledge at the time of publication. Because the possibilities and application conditions of our product are many and varied, and lie beyond our control, we can in no event be held responsible if all the necessary information on planned applications have not been formally brought to our attention. The information presented here cannot be considered as a suggestion to use our products without taking into account existing patents, or legal provisions or regulations, whether national or local. The purchaser is obliged to verify whether the possession, use or marketing of our products is subject within his territory to particular rules, especially with respect to public health, hygiene and worker and/or consumer safety. The purchaser alone assumes the duties of information and advice for the ultimate user. Specifications reported on this datasheet can not be used as reference values in a technical or sales contract. Padanaplast can in no event be held responsible for a possible failure on the part of the purchaser to respect these regulations, provisions and duties. This document replaces all previously published on the same compounds.

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