



# POLIDIEMME<sup>®</sup> G/420

**High modulus elastomer based compound, crosslinkable by exposure to moisture for power cable insulation and sheathing**

**description** elastomer based compound crosslinkable by moisture, consisting of a silane pregrafted base compound to be used with a catalyst masterbatch (Sioplas method)

**standard complying** Cenelec HD 22.1 E17; Cenelec HD 603 DIH1, DIH2 and DIH3; IEC 60502 EPR and HEPR; IEC 60092/351 EPR and HEPR; BS 7655 GP4, GP5, GP6 and GP7; CEI 20.11 G7; VDE 0207/20 3GI3

**physical properties**

	typical value	test method
density @23°C (g/cm <sup>3</sup> ):	0.91	ASTM D 792
shore D hardness:	32	ISO R 868
IRHD hardness	91	UNI 7318-74
M.F.I. @190°C/2.16 kg (g/10')	1.3	Padanaplast
unaged mechanical properties - tensile strength (N/mm <sup>2</sup> ): - elongation at break (%): - modulus @150% elongation (N/mm <sup>2</sup> ):	20.5 470 7.0	IEC 60811
mechanical properties after ageing in air oven, 168 hours @150°C - variation on tensile strength (%): - variation on elongation at break (%):	+10 +5	
mechanical properties after ageing in air oven, 240 hours @150°C on untinned copper - bending test:	no cracks	
mechanical properties after ageing in air bomb, 40 hours @127°C, 0.55 MPa - variation on tensile strength (%): - variation on elongation at break (%):	+16 +7	
hot set test @200°C, 20 N/cm <sup>2</sup> - elongation under load (%): - permanent elongation after cooling (%):	30 0	
hot set test @250°C, 20 N/cm <sup>2</sup> - elongation under load (%): - permanent elongation after cooling (%):	50 0	
water absorption, 24 hours @100°C (mg/cm <sup>2</sup> ):	1.0	

**electrical properties**

		typical value	test method
volume resistivity (Ω x cm):	@20°C:	4.1 x 10 <sup>15</sup>	IEC 60502
	@90°C:	1.3 x 10 <sup>15</sup>	
insulation constant (MΩ x km):	@20°C:	15000	
	@90°C:	5000	

tests made on pressed or extruded specimens, added with 5% of Catalyst CT/1 and crosslinked in hot water

**processing** POLIDIEMME® G/420 pregrafted base must be added with Catalyst CT/1 masterbatch to promote curing. Catalyst dosage is 5% by weight and blending must be done just before using (2-3 hours max.), preferably in the extruder hopper. Catalyst doesn't need any predrying

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

**extrusion equipment** Standard PVC extruders and single or double flight screw, having a L/D ratio of 20+30 and an adequate barrel thermoregulation; longer screws may require a reduced dosage of Catalyst. Screw cooling not required. Filter net: 80-160 mesh/cm<sup>2</sup>. Compression tools suggested.

temperature setting	zone 1	zone 2	zone 3	zone 4	collar	head	die
max (°C)	160	170	180	190	190	190	220
min (°C)	140	150	160	170	170	170	180

**curing** - by immersion in hot water at 60-70°C  
- by exposure to low pressure steam (about 0.15 bar)  
- by exposure in ambient at 10-30°C 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 in case of forced curing in hot water and 8-12 hours in case of curing in steam room; in case of self curing, time depends also on the specific ambient conditions.

**colouring** PE based masterbatches added at 0.6-1% (approx.) by weight; predrying of colour masterbatch is suggested if moisture absorption occurred during storage (4-6 hours at 70-80°C).

**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

Product alterations could occur due to extended period of storage. Its use within six months from the production date is suggested. Solvay Padanaplast S.p.A. accepts no liability of any kind in case the above mentioned conditions are not fulfilled.

**packaging** 25 kg moisture-resistant bags on 1375 kg pallet.

**contact** Solvay Padanaplast S.p.A. - Via Paganina 3 - 43010 Roccabianca (Parma) - ITALY  
phone: +39-0521-5291  
fax: +39-0521-870427  
e-mail: info.padanaplast@solvay.com  
http: www.padanaplast.com

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