



COGEGUM[®] AFR/765

Thermoplastic halogen-free fire retardant compound for cable insulation and sheathing

description

Polyolefinic based thermoplastic compound containing a fire retardant system that contributes to give the cable self-extinguish properties without halogenidric acids evolution; furthermore, toxic and corrosive gases emission and smoke generation are particularly reduced. These characteristics make this compound suitable in all applications where the fire behaviour of cable materials is one of the main concerns to be considered in establishing a high safety level in public places. This material complies with RoHS requirements.

standard complying

Cenelec HD 624.7 S1, HD 624.6 S1; VDE 0207/24 HM2, HM4, HM5; VDE 0207/23 HJ2; BS 6724; BS 7655 LTS 2; CEI 20.11 M1; CEI 46.29; CEI 46.34; IEC 60092 SHF1; UNE 21123-4

physical properties

	typical value	test method
density @23°C (g/cm ³):	1.52	ASTM D 792
shore D hardness:	53	ISO R 868
M.F.I. @150°C/21.6 kg (g/10')	5.1	Padanaplast
unaged mechanical properties - tensile strength (N/mm ²): - elongation at break (%):	12.5 200	IEC 60811
mechanical properties after ageing in air oven, 168 hours @110°C - variation on tensile strength (%): - variation on elongation at break (%):	+2 -15	
SAE 20 oil immersion test, 4 hours @70°C - variation on tensile strength (%): - variation on elongation at break (%):	-12 +1	
mechanical properties after hydrocarbons immersion, 4 hours at 25°C: variation on tensile strength variation on elongation at break	-10 +10	CEI 20-11
hot pressure test at 90°C, max. penetration (%):	< 50	IEC 60811
heat shock test at 150°C:	pass	
cold bend at -25°C:	pass	
cold impact at -25°C:	pass	
water absorption, 24 hours at 100°C (mg/cm ²):	2.2	

electrical properties

		typical value	test method
volume resistivity (Ω x cm):	@20°C:	6.8x10 ¹⁴	IEC 60502
	@70°C:	1.1x10 ¹⁴	
insulation constant (MΩ x km):	@20°C:	2500	
	@70°C:	400	

burning properties

		typical value	test method
oxygen index (% O ₂):		39	ASTM D 2863
temperature index (°C):		300	NES 715
upper (gross) calorific potential (MJ/kg):		15.7	ISO 1716
halogenidric acid emission (% HCl):		< 0.1	IEC 60754-1
corrosivity of gases evolved	pH:	> 4.3	IEC 60754-2
	conductivity (µS/mm):	< 10	

tests made on pressed or extruded specimens

extrusion equipment

Standard extruders for thermoplastics equipped with low compression screw (1:1.2-1.4 compression ratio and 20-25 L/D ratio are suggested), and an adequate barrel thermoregulation. Screw cooling is not required.

Filter net: not necessary; in case, use 40-80 mesh/cm² max. Anyway the use of the breaker plate is advisable, in particular using low compression screws.

temperature setting

	zone 1	zone 2	zone 3	zone 4	collar	head	die
max (°C)	150	160	160	160	170	170	170
min (°C)	130	130	140	140	150	150	150

colouring

EVA based masterbatches added at 1.2-1.5% (approx.) by weight; predrying of colour masterbatch is suggested if moisture absorption occurred during storage (4-6 hours at 60-70°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 1250 kg pallet.

contact

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