



# COGEGUM<sup>®</sup> AFR/760

**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** EN 50363-0 M1; EN 50363-7 T16, T17; EN 50363-8 TM7; IEC 60502-1 ST<sub>8</sub>; Cenelec HD 624.7 S1; Cenelec HD 624.6 S1; VDE 0207 HM2, HM5, HJ2; IEC 60092 SHF1; UNE 21123-4

physical properties		typical value	test method
density @23°C (g/cm <sup>3</sup> ):		1.51	ASTM D 792
shore D hardness:		51	ISO R 868
M.F.I. @150°C/21.6 kg (g/10')		2.7	Padanaplast
unaged mechanical properties - tensile strength (N/mm <sup>2</sup> ): - elongation at break (%):		12.3 200	IEC 60811
mechanical properties after ageing in air oven, 168 hours @100°C - variation on tensile strength (%): - variation on elongation at break (%):		+15 -16	
SAE 20 oil immersion test, 4 hours @70°C - variation on tensile strength (%): - variation on elongation at break (%):		-15 +3	
mechanical properties after hydrocarbons immersion, 4 hours at 25°C: variation on tensile strength variation on elongation at break		-10 +12	CEI 20-34/0-1
hot pressure test at 80°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 <sup>2</sup> ):		3.5	

electrical properties		typical value	test method
volume resistivity (Ω x cm):	@20°C:	1.1x10 <sup>14</sup>	IEC 60502
	@70°C:	5.5x10 <sup>11</sup>	
insulation constant (MΩ x km):	@20°C:	400	
	@70°C:	2	

burning properties		typical value	test method
oxygen index (% O <sub>2</sub> ):		39	ASTM D 2863
temperature index (°C):		300	NES 715
upper (gross) calorific potential (MJ/kg):		15.6	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/cm<sup>2</sup> 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 1375 kg pallet.

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