



**APLSI01**

**(Thermoplastic halogen-free fire retardant compound for insulating of cable)**

**Description**

APLSI01 is a thermoplastic, low smoke, halogen free, flame retardant insulation compound for wire and cables which possess excellent insulation properties. This product provides excellent processing characteristics combined with superior level of fire performance, excellent flexibility, and also high mechanical properties.

**Specification:**

IEC 60502-1 type ST8 and IEC 60092-359 type SHF1  
 DIN VDE 0207, VDE 0250 part 24, Type HM2/HM4

BS7655:6.1 types LTS1, LTS2, LTS3, LTS4

**Properties:**

Physical Properties	Standard and Test Method	Unit	Typical value
<b>Density</b>	IEC 60811-1-3	gr/cm <sup>3</sup>	1.46±0.02
<b>Properties before ageing</b>			
Tensile strength	IEC 60811-1-1	N/mm <sup>2</sup> %	min 13
Elongation at break			min 200
<b>Properties after ageing "7days at 100°C"</b>			
Variation of Tensile strength	IEC 60811-1-2	%	±40
Variation of Elongation at break			±40
<b>Tear strength</b>	BS 6469:99.1	N/mm	8
<b>Hardness</b>	ASTM D2240	Shore D	54±2
<b>Melt Flow Index(150 °C/21.6 kg)</b>	ASTM D1238	gr/10min	5±1
<b>Heat shock test "1 hr at 150°C"</b>			
Result to be obtained	IEC 60811-3-1	--	No Crack
<b>Hot pressure at 90°C</b>	IEC 60811-3-1	%	30
<b>Cold Bending test</b>	IEC 60811-1-4	--	Pass
<b>Cold impact test</b>	IEC 60811-1-4	--	pass
Burning Properties	Standard and Test Method	Unit	Typical value
<b>Oxygen Index</b>	ASTM D2863	%	Min32
<b>Acid gas emission</b>	PH	--	>4.3
		Conductivity	μS/mm
<b>Halogen acid gas evolution</b>	IEC 60754-1	%	Zero
<b>Smoke Density Rating</b>	ASTM D 2843	%	8
<b>Toxicity Index</b>	NES 713	-	1.7
<b>Flame spread test on single cables</b>	IEC 60332-1	mm	>50



**Processing Condition:**

Most halogen free, low smoke materials have a melt viscosity higher than PE/PVC compounds. Such compounds require more power during processing, which leads to a rapid increase in melt temperature, as the screw speed increases.

APLSJ01 have been processed on a variety of screw designs, but for optimum output the use of a low compression, low shear screw is recommended. A compression ratio of 1:1.2 is ideal.

As a general guide, typical processing temperature are as follows:

	zone 1	zone 2	zone 3	zone 4	head	die
max (°C)	140	145	160	165	170	170
min (°C)	130	140	145	150	155	155

**Colorability**

APLSI01 compounds are a Colorable Compound with PE/EVA base master batch.

**Safety**

APLSI01 is classified as a no-dangerous material.

**Storage**

APLSI01 must be stored at ambient conditions which not exceed 30 °C in closed and unbroken packaging in order to avoid exposure to direct sunlight and humidity. The compound should not contact directly with ground. And this product should be avoid direct exposure to sunlight and weathering.

**Packaging**

It is available in the form of pellets and supplied in PP laminated bag with a net content of 25 kgs.

**Technical Service**

Abhar Polymer Compounds Technical Service is available to help the customer to choose the best product for his requirements.

Our Technical Service is at your disposal for further information and advice about the start-up and also for any possible necessity during the use of the product.

**Disclaimer**

کارخانه: ابهر، کیلومتر ۵ جاده ترانزیت تاکستان، مجتمع صنعتی نورین  
 تلفن ۰۱ ۲۴۲۵۲۸۴۵۰۱ +۹۸ -۰۱ ۲۴۲۵۲۸۴۵۱۲ الی +۹۸ ۲۴۲۵۲۸۴۵۰۰، نمابر: +۹۸ ۲۴۲۵۲۸۴۵۰۰  
 دفتر مرکزی: خیابان خرفشهر، شماره ۶۴، تهران ۱۵۵۳۹۵۳۷۱۳ ایران  
 تلفن ۰۰۰۰۰۰۰۰ ۲۱۸۱۹۳۰۴۹۰ +۹۸، نمابر ۲۱۸۱۹۳۰۴۹۰ +۹۸، نمابر ۲۱۸۸۷۶۲۵۹۲ +۹۸

**Factory:** Noorin Ind. Complex, 5th km. Takestan Exp. way, Abhar - Iran  
**Tel:** +98 2425284501-12, **Fax:** +98 2425284500  
**Head Office:** No. 64, Khoramshahr Ave., Tehran 15539 53713 IRAN  
**Tel:** +98 21 81930000, +98 21 81930490, **Fax:** +98 21 88762592, **Email:** info@abharpolymer.com



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