



## Granule Type: PP-I01

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

### Description

PP- I01 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 high mechanical properties.

### Specification:

IEC 60502-1 type ST8 and IEC 60092-359 type SHF1      BS7655:6.1 types LTS1, LTS2, LTS3, LTS4  
DIN VDE 0207, VDE 0250 part 24, Type HM2/HM4

### Properties:

| Physical Properties   |              | Standard and Test Method | Unit       | Typical value     |
|---|--------------|--------------------------|------------|-------------------|
| Density   |              | IEC 60811-1-3            | gr/cm³     | 1.46±0.02         |
| Properties before ageing<br>Tensile strength<br>Elongation at break   |              | IEC 60811-1-1            | N/mm²<br>% | min 13<br>min 200 |
| Properties after ageing “7days at 100°C”<br>Variation of Tensile strength<br>Variation of Elongation at break |              | IEC 60811-1-2            | %<br>%     | ±40<br>±40        |
| Tear strength   |              | BS 6469:99.1             | N/mm       | 8                 |
| Hardness  |              | ASTM D2240               | Shore D    | 54±2              |
| Melt Flow Index (150 °C/21.6 kg)  |              | ASTM D1238               | gr/10min   | 5±1               |
| Heat shock test “1 hr at 150°C”<br>Result to be obtained  |              | IEC 60811-3-1            | --         | No Crack          |
| Hot pressure at 90°C  |              | IEC 60811-3-1            | %          | 30                |
| Cold Bending test   |              | IEC 60811-1-4            | --         | Pass              |
| Cold impact test  |              | IEC 60811-1-4            | --         | pass              |
| Burning Properties  |              | Standard and Test Method | Unit       | Typical value     |
| Oxygen Index  |              | ASTM D2863               | %          | Min32             |
| Acid gas emission   | PH           | IEC 60754-2              | --         | >4.3              |
|   | Conductivity |                          | µS/mm      | ≤10               |
| Halogen acid gas evolution  |              | IEC 60754-1              | %          | Zero              |
| Smoke Density Rating  |              | ASTM D 2843              | %          | 8                 |
| Toxicity Index  |              | NES 713                  | -          | 1.7               |
| Flame spread test on single cables  |              | 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.

PP - I01 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 |

### **Color ability**

PP-I01 compounds are a Colorable Compound with PE/EVA base master batch.

### **Safety**

PP-I01 is classified as no-dangerous material.

### **Storage**

PP - I01 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 avoiding 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**

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.