Technical data sheet
Mecoline IS RDX 1201 F

Irradiation cross-linkable, halogen-free, flame retardant compound

- Compound class
- Compound category: RDX
- Flame retardant: MDH

- Standards
  - DIN/VDE DKE AK 411.2.3
  - TÜV 2PfG 1169/08.2007

- Operating temperature [°C]
  - -40 to 125

- Oil resistance level
  - ★ ★ ★

- Typical applications
  - A flame retardant, halogen-free and low smoke, oil resistant compound. Max. operating temperature 125°C.

- Features
  - Flame retardant
  - Halogen-free
  - Low smoke
  - Oil resistant
  - High temperature resistant

Green-Energy

PHYSICAL PROPERTIES

- Physical properties
  - Density*
    - Unit: g/cm³
    - Typical value: 1.38
    - Test method: DIN EN ISO 1183-1A
  - Hardness*
    - Unit: Shore D
    - Typical value: 45
    - Test method: DIN ISO 7619-1
  - Melt Flow Index (165°C; 21.6kg)
    - Unit: g/10 min
    - Typical value: 8.0
    - Test method: DIN EN ISO 1133

MECHANICAL PROPERTIES

- Before crosslinking **
  - Tensile strength
    - Unit: N/mm²
    - Typical value: 11.5
    - Test method: IEC 60811-501
  - Elongation at break
    - %
    - Typical value: 229
    - Test method: IEC 60811-501

- After crosslinking ***
  - Tensile strength (80kGy)
    - Unit: N/mm²
    - Typical value: 18.0
    - Test method: IEC 60811-501
  - Elongation at break (80kGy)
    - %
    - Typical value: 213
    - Test method: IEC 60811-501

- After ageing in air oven 1008h at 155°C ***
  - Variation in tensile strength
    - %
    - Typical value: +20.0
    - Test method: IEC 60811-401
  - Variation in elongation at break
    - %
    - Typical value: -21.1
    - Test method: IEC 60811-401
### Technical data sheet

**Mecoline IS RDX 1201 F**

#### THERMAL PROPERTIES

<table>
<thead>
<tr>
<th>Test</th>
<th>Unit</th>
<th>Typical value</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>After ageing in air oven 480h at 165°C ***</td>
<td>%</td>
<td>+11.1</td>
<td>IEC 60811-401</td>
</tr>
<tr>
<td>Variation in tensile strength</td>
<td>%</td>
<td>-24.9</td>
<td>IEC 60811-401</td>
</tr>
<tr>
<td>Variation in elongation at break</td>
<td>%</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>After ageing in air oven 144h at 180°C ***</td>
<td>%</td>
<td>+5.9</td>
<td>IEC 60811-401</td>
</tr>
<tr>
<td>Variation in tensile strength</td>
<td>%</td>
<td>-20.2</td>
<td>IEC 60811-401</td>
</tr>
<tr>
<td>Variation in elongation at break</td>
<td>%</td>
<td>0.00</td>
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</table>

#### ELECTRICAL PROPERTIES

<table>
<thead>
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<th>Test</th>
<th>Unit</th>
<th>Typical value</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume resistivity at 23°C / 500V</td>
<td>Ω cm</td>
<td>3.5 x 10^14</td>
<td>Din IEC 60093</td>
</tr>
<tr>
<td>Volume resistivity at 90°C / 500V</td>
<td>Ω cm</td>
<td>6.6 x 10^11</td>
<td>Din IEC 60093</td>
</tr>
</tbody>
</table>

#### RESISTANCE

<table>
<thead>
<tr>
<th>Test</th>
<th>Unit</th>
<th>Typical value</th>
<th>Test method</th>
</tr>
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<tbody>
<tr>
<td>Fluid IRM 902 24h at 100°C</td>
<td>%</td>
<td>-19.1</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>Variation in tensile strength</td>
<td>%</td>
<td>-28.0</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>Variation in elongation at break</td>
<td>%</td>
<td>16.3</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>1N NaOH 168h at 23°C</td>
<td>%</td>
<td>-8.9</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>Variation in tensile strength</td>
<td>%</td>
<td>11.3</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>Variation in elongation at break</td>
<td>%</td>
<td>-11.0</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>1N Oxalic acid 168h at 23°C</td>
<td>%</td>
<td>11.7</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>Variation in tensile strength</td>
<td>%</td>
<td>+11.0</td>
<td>IEC 60811-404</td>
</tr>
<tr>
<td>Variation in elongation at break</td>
<td>%</td>
<td>11.7</td>
<td>IEC 60811-404</td>
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#### BURNING PROPERTIES

<table>
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<th>Test</th>
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<th>Test method</th>
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</thead>
<tbody>
<tr>
<td>LOI</td>
<td>%</td>
<td>30</td>
<td>ASTM D 2863 A</td>
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</tbody>
</table>

* pressed plaques
** extruded tapes
*** cross-linked plaques or tapes
PROCESSING GUIDE

- **Screw configuration**
  Low compression screw with L/D of 20 to 25 and compression ratio of 1:1.2.

- **Extruder Type**
  Standard extruders for elastomeric or thermoplastic processing.

- **Tooling**
  Pressure, semi-compression or tube possible.

**Temperature Chart**

<table>
<thead>
<tr>
<th>Zone 1</th>
<th>Zone 2</th>
<th>Zone 3</th>
<th>Zone 4</th>
<th>Zone 5</th>
<th>Adapter</th>
<th>Head</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>140</td>
<td>150</td>
<td>160</td>
<td>170</td>
<td>180</td>
<td>190</td>
<td>200</td>
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</tbody>
</table>

**Maximum melt temperature**

190 - 200°C

**Drying**

Pre-drying of Mecoline Compounds is normally not necessary provided that the compound has been stored in sealed bags under cool (max. 30°C) and dry conditions. If Mecoline compounds used from open bags, pre-drying 4–6 hours at a temperature of 60–70°C is recommended.

STORAGE INFORMATION

- **Form & packaging**
  Pellets in sizes 2.8mm PE-bags (25kg), Octabins (1.000-2.000 kg), BigBags (max. 1.250 kg)

- **Shelf life**
  1 year after production

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