### 4.625 in. KLEENZONE™ ±10 Degree Phase, HMX Shaped Charge

<table>
<thead>
<tr>
<th>Part No.: 101466192</th>
<th>PROPER SHIPPING NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Certificate No.: CE0519, ENB/B/036</td>
<td>UN0440, CHARSES, SHAPED, 1.4D, PG II</td>
</tr>
<tr>
<td>DOT EX No.: EX1996080028</td>
<td></td>
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</tbody>
</table>

#### Technical Drawing

- **Case**
- **Liner**
- **Explosive, booster**
- **Explosive, main**
- **Glue ring**

#### Packing Information

<table>
<thead>
<tr>
<th>Quantity per box:</th>
<th>16 pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross weight per box:</td>
<td>19.17 kg (42.27 lb)</td>
</tr>
<tr>
<td>Net weight per box:</td>
<td>17.92 kg (39.51 lb)</td>
</tr>
<tr>
<td>NEC per box:</td>
<td>0.6240 kg</td>
</tr>
<tr>
<td>Box dim:</td>
<td>29.9 x 23.5 x 19.0 cm</td>
</tr>
<tr>
<td></td>
<td>11.8 x 9.3 x 7.5 in</td>
</tr>
<tr>
<td>Package type:</td>
<td>Trays with desiccant enclosed by vacuum bag, then placed inside fibreboard box.</td>
</tr>
<tr>
<td>Product Designation:</td>
<td>HES-APRV-004</td>
</tr>
</tbody>
</table>

#### Technical Information

**APPLICATION:**
- Shaped charge for oilfield use

**PERFORATING SYSTEM**
- **SPECIFICATION:**
  - Diameter: 4.625 inch (117.5 mm) OD
  - Collapse rating: 20,000 psi (1,379 bar)
  - Tensile rating: 200,000 lb (90,718 kg)

**EXPLOSIVES:**
- Booster: Pure HMX, 1g
- Main load: Desensitized HMX, 38 g
- Density: > 1.5 g/cm³

**TEMPERATURE LIMITS:**
- 400 F / 204 C 1 h
- 338 F / 170 C 24 h
- 310 F / 154 C 100 h

**PERFORMANCE:**
- Manufacturing quality control data:
  - Hole Diameter: 0.37 in (9.4 mm)
  - Penetration: 46.9 in (1191 mm)

**SHELF LIFE:**
- 10 years when stored unopened in original packaging. Storage temperature: 0 C / 32 F min 54 C / 130 F max

**DISPOSAL:**
- Dispose of product not suitable for oilfield use according to applicable laws and regulations.

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