### Technical Drawing

![Diagram of the shaped charge](image)

#### Packing Information

<table>
<thead>
<tr>
<th>Quantity per box:</th>
<th>50 pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross weight per box:</td>
<td>8.85 kg (19.5 lb)</td>
</tr>
<tr>
<td>Net weight per box:</td>
<td>6.70 kg (14.77 lb)</td>
</tr>
<tr>
<td>NEC per box:</td>
<td>0.5000 kg</td>
</tr>
<tr>
<td>Box dim:</td>
<td>45.7 x 30.5 x 12.7 cm</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 (w/ cold drawn steel):
- Diameter: 2-3/8 inch (60.3 mm) OD
- Collapse rating: 20,000 psi (1,379 bar)
- Tensile rating: 155,000 lb (57,852 kg)

#### EXPLOSIVES:
- Booster: Pure HMX, 1g
- Main load: Desensitized HMX, 9 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:
- Registered API 19B Section 1 data:
  - Hole Diameter: 0.48 in (12.19 mm)
  - Penetration: 5.8 in (147.32 mm)
- Manufacturing quality control data:
  - Hole Diameter: 0.56 in (14.22 mm)
  - Penetration: 5.8 in (147.32 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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