eni Betula are superior quality lubricants formulated from special naphthenic base oils appropriately refined to impart a low pour point, a low flock point and high resistance to oxidation and carbon deposit formation, all properties essential for correct lubrication of refrigeration compressors.

**CHARACTERISTICS (TYPICAL FIGURES)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>eni Betula 32</th>
<th>46</th>
<th>68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity at 40°C</td>
<td>29.1</td>
<td>43</td>
<td>61.3</td>
</tr>
<tr>
<td>Viscosity at 100°C</td>
<td>4.4</td>
<td>5.3</td>
<td>6.8</td>
</tr>
<tr>
<td>Viscosity Index</td>
<td>18</td>
<td>30</td>
<td>43</td>
</tr>
<tr>
<td>Flash Point COC</td>
<td>180</td>
<td>185</td>
<td>202</td>
</tr>
<tr>
<td>Pour Point</td>
<td>-40</td>
<td>-40</td>
<td>-37</td>
</tr>
<tr>
<td>Flock Point</td>
<td>-56</td>
<td>-54</td>
<td>-51</td>
</tr>
<tr>
<td>Density at 15°C</td>
<td>0.889</td>
<td>0.894</td>
<td>0.898</td>
</tr>
</tbody>
</table>

**PROPERTIES AND PERFORMANCE**

eni Betula have the following properties which guarantee trouble-free operation of hermetic refrigeration compressors in which they are used:

- high chemical and thermal stability which reduces possibility of reaction with the refrigerant and the materials -metals and seals- used to make the compressors;
- oxidation resistance which ensures long service life, combined with negligible tendency to form carbon residues on the hot surfaces of compressor valves;
- low pour points to prevent the oil from solidifying in the cold parts of the refrigeration plant;
- low flock points to avoid separation of wax-like deposits in the cold parts of the system;
- high dielectric strength to avoid difficulties in those compressors where the lubricant comes into contact with the windings of electric motors.

**APPLICATIONS**

eni Betula are intended for lubrication of refrigeration compressors. They are used with the following types of refrigerant:

- not miscible in oil (e.g. ammonia) thanks to their low pour point;
- completely miscible in oil (e.g. R12) thanks to their low flock point;
- partially miscible in oil (e.g. R22) thanks to low critical point of the refrigerant-oil mixture.

eni Betula 32 is particularly recommended for compressors of hermetic type.

eni Betula 68 is particularly recommended for lubrication of refrigeration compressors of open type.

eni Betula 68 is even used in air compressors where naphthenic lubricant with low carbon deposit is required.

eni Betula not are indicated for compressors using SO2 that require white oils as eni OBI.
**SPECSIFICATIONS**

*eni Betula* products meet the test requirements of the following specifications:

- ISO-L-DRA
- ISO-L-DRC
- DIN 51303 KAA
- DIN 51503 KC
- MM-O-2008 type II (NATO O-283) (ISO VG 68)
- MM-O-2008 type IV (NATO O-290) (ISO VG 32)

*eni Betula* are approved from the following manufacturers:

- BITZER KT-500-5 (with old name TER)