Counterboring in steel at low cutting speed

Number of produced parts

<table>
<thead>
<tr>
<th>Tool</th>
<th>Number of parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALINIT® FUTURA NANO</td>
<td>100</td>
</tr>
<tr>
<td>BALINIT® HELICA</td>
<td>300</td>
</tr>
<tr>
<td>BALINIT® PERTURA</td>
<td>500</td>
</tr>
</tbody>
</table>

**Tool**
Solid carbide step drill ø12x80 mm

**Workpiece**
Automotive component
Steel 1.7220 (~AISI4135, ~SCM435)

**Cutting Parameter**
\[ \nu_c = 34 \text{ m/min} \]
\[ f = 0.10 \text{ mm/rev} \]
\[ a_p = 0.15 \text{ mm} \]
Emulsion (internal cooling)

**Criteria for end of tool life**
Quality of machined surface

**Source**
Enduser Europa (Automotive industry)