WELDED COLD DRAWN TUBES, INSIDE SMOOTH AS DRAWN OR HONED
STEEL GRADES CORRESPONDENTS

<table>
<thead>
<tr>
<th>EN</th>
<th>Werkstoff</th>
<th>DIN</th>
<th>B.S.</th>
<th>UNI</th>
<th>JIS</th>
<th>GOST</th>
<th>AISI / SAE / ASTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>E355</td>
<td>1.0580</td>
<td>St52</td>
<td>CF55</td>
<td>Fe510</td>
<td>STKM19A</td>
<td>St6sp</td>
<td>1524 / 1024</td>
</tr>
</tbody>
</table>

C = cold drawn
* Wall thickness ≤ 12 mm
** On request
*** The hardness values is for information only
**** The Yield Point value is for information only

CHEMICAL COMPOSITION - IN % BY WEIGHT

<table>
<thead>
<tr>
<th>Steel grade</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
<th>Cr</th>
<th>Mo</th>
<th>Ni</th>
<th>V</th>
<th>Cu</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>E355</td>
<td>max. 0.22</td>
<td>max. 0.55</td>
<td>max. 1.60</td>
<td>max. 0.025</td>
<td>max. 0.025</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Cr+Mo+Ni = max. 0.63

MECHANICAL PROPERTIES

<table>
<thead>
<tr>
<th>Steel grade</th>
<th>Tensile strength</th>
<th>Yield point</th>
<th>Elongation (longitudinal)</th>
<th>Impact energy (longitudinal direction)</th>
<th>Hardness ***</th>
<th>Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R_m$ N/mm²</td>
<td>$R_{p0.2}$ N/mm²</td>
<td>$A_5$ %</td>
<td>$K_V$ J</td>
<td>Brinell N/mm²</td>
<td></td>
</tr>
<tr>
<td>E355+C</td>
<td>min. 640</td>
<td>min. 540 ****</td>
<td>min. 4</td>
<td>-</td>
<td>min. 185</td>
<td>EN 10305-2</td>
</tr>
</tbody>
</table>

C = cold drawn
* Wall thickness ≤ 12 mm
** On request
*** The hardness values is for information only
**** The Yield Point value is for information only

The distinctive properties of the welded ready to use tubes are tight tolerances, high concentricity and excellent surface finish.

WELDED COLD DRAWN TUBES, INSIDE SMOOTH AS DRAWN OR HONED

H9

NIMAX H9 - E355+C, EN 10305-2
The distinctive properties of the welded ready to use tubes are tight tolerances, high concentricity and excellent surface finish.

NIMAX H9 - E355+C, EN 10305-2

Additionally, the tubes can be honed, conferring the inside surface a better precision. The special texture obtained permits oil storage and helps the system to work properly and well lubricated, even after a long period of inactivity.

### TABLE OF DIMENSIONS

<table>
<thead>
<tr>
<th>Diameter Range</th>
<th>ISO H9 Tolerance</th>
<th>ISO H10 Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 &lt; Ø ≤ 50</td>
<td>0 / +62</td>
<td>0 / +100</td>
</tr>
<tr>
<td>50 &lt; Ø ≤ 80</td>
<td>0 / +74</td>
<td>0 / +120</td>
</tr>
<tr>
<td>80 &lt; Ø ≤ 110</td>
<td>0 / +87</td>
<td>0 / +140</td>
</tr>
</tbody>
</table>

**Outside diameter - OD**  Ø30 - 125 mm

**Inside diameter - ID**  Ø20 - 110 mm

**Inside tolerance - ID**  ISO H9 / ISO H10

**Outside tolerance - OD**  according to EN 10305-2

**Roundness - ID**  within the limits of diameter tolerances

**Standard lengths**  mill lengths / on request, cut to fix lengths pieces

**Surface roughness - ID**  Ra: max. 0.40 µm for honed surface

**Ra: max. 0.60 µm for smooth surface, ready to use**

**Straightness local deviation**  max. 1 mm / 1000 mm

**Straightness total deviation**  max. 3.5 mm for tubes with length up to 6000 mm

for tubes with length more than 6000 mm, for each meter over this length, the tolerance must be increased by 0.5 mm
The distinctive properties of the welded ready to use tubes are tight tolerances, high concentricity and excellent surface finish.

### STORAGE AND HANDLING RECOMMENDATIONS

- Keep the products stored in dry and covered spaces.
- Do not expose for a long time the bars or tubes to the sunlight or to very low temperatures.
- For storage, preferable to use rubber supports or wood lined supports; direct contact with the floor and steel supports that are not lined with soft materials must be avoided.
- Whenever possible, please use the crane to load or unload the bundles; when you use the fork lifts please avoid the direct contact of the forks with the products.
- Always lift the bundles using textile slings. Don’t use metal slings during handling of bundles.
- Always keep dry the cardboard tubes that protect the chromed products.