Stainless Guide material with:

- Good hardening properties
- Excellent Ground Finish
- Excellent Corrosion resistance

Selected for use in High Quality Linear Bearing Guide-way systems where Induction Hardened, Corrosion Resistant materials are required.

### Chemical Analysis %

<table>
<thead>
<tr>
<th>Material</th>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>P</th>
<th>S</th>
<th>Cr</th>
<th>Mo</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>X90CrMoV18</td>
<td>0.85</td>
<td>&lt; =</td>
<td>&lt; =</td>
<td>&lt; =</td>
<td>&lt; =</td>
<td>17,0</td>
<td>0,9</td>
<td>0,07</td>
</tr>
<tr>
<td></td>
<td>0,95</td>
<td>1,0</td>
<td>1,0</td>
<td>0,04</td>
<td>0,03</td>
<td>19,0</td>
<td>1,3</td>
<td>0,12</td>
</tr>
</tbody>
</table>

Specification to DIN EN 10088-3

### Standard Diameters

<table>
<thead>
<tr>
<th>Standard Ø (mm)</th>
<th>Tolerance (µm) h Ø 6</th>
<th>Tolerance (µm) h Ø 7</th>
<th>* Production Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0 - 8</td>
<td>0 - 12</td>
<td>1,000</td>
</tr>
<tr>
<td>8</td>
<td>0 - 9</td>
<td>0 - 15</td>
<td>4,000</td>
</tr>
<tr>
<td>10</td>
<td>0 - 11</td>
<td>0 - 18</td>
<td>1,100</td>
</tr>
<tr>
<td>16</td>
<td>0 - 13</td>
<td>0 - 21</td>
<td>6,100</td>
</tr>
<tr>
<td>20</td>
<td>0 - 16</td>
<td>0 - 25</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>0 - 19</td>
<td>0 - 30</td>
<td></td>
</tr>
</tbody>
</table>

*When ordering stock, as opposed to fixed length bars, please be aware that up to 10% of the delivery may be out of tolerance. Stock bars do not have their ends cut which means that up to 75 mm of each end may not be fully hardened and up to 150 mm of each end may not be within geometrical tolerance. Length tolerance ± 100 mm.

### Mechanical Properties

**Values according to EN 10088-1:**
- E-Modulus at 20°C = 215,000 N/mm²
- E-Modulus at 100°C = 212,000 N/mm²

**Thermal Expansion:**
- 20 - 100°C = 10,4 x 10⁻⁶ K⁻¹
- 20 - 200°C = 10,8 x 10⁻⁶ K⁻¹
- 20 - 300°C = 11,2 x 10⁻⁶ K⁻¹

The material is magnetic and not weldable.

**Density:** 7.7 kg/dm³

**Roundness:** ½ Diameter tolerance

**Surface:** Polished, surface finish Ra ≤ 0.30 µm

**Straightness:**
- < Ø 10
- < 0.30 mm/m (TIR max. 0.60 mm/m)
- ≥ Ø 10 - < Ø 20 mm
- 0.20 mm/m (TIR max. 0.40 mm/m)
- ≥ Ø 20 - Ø 50 mm
- 0.10 mm/m (TIR max. 0.20 mm/m)

Induction hardened: Surface Hardness 53 - 59 HRC

### Specials:

Other hardness depths and tolerances are available. Please contact us for detailed information, dimensions and minimum order quantities.

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