

**Specification**  
finetron

For gas applications in semiconductor industry as well as in photovoltaics

**finetron**

**bf** bright finished



**1. SURFACES QUALITIES**

Tubes and fittings:	Inner surface (bf)	Outer surface
<b>finetron</b>	<b>Ra<sub>avg.</sub> ≤ 0,40 µm (16 µin)</b>	<b>Ra<sub>avg.</sub> ≤ 1.0 µm (40 µin)</b>
Additional notes:	<ul style="list-style-type: none"> <li>- Tubes and fittings are prepared for orbital welding.</li> <li>- Other specified surfaces or ends are available upon request.</li> <li>- The Ra value in the cold worked area of fittings (inner and outer surface) and on the surface of circumferential welds is not defined. For dimensions OD ≤ 3/8" (5.00 mm) roughness is not measured.</li> <li>- Cleaning and test procedure ASTM A 632, S3 – level C.</li> </ul>	

**2. MATERIALS**

Austenitic stainless steel tubes and fittings (seamless or welded / depending on diameter):	
<b>finetron</b>	1.4404 / UNS S31603 (316L) 1.4435 / UNS S31603 (316L) UNS S31603 (316L)
Hardness equivalent to:	<ul style="list-style-type: none"> <li>- max. 180 HV* according to DIN EN ISO 6507-1</li> <li>- max. 90 HRB* according to DIN EN ISO 6508-1</li> </ul> <p>* comparable to ASTM E-384 (HV) and ASTM E 18-22 (HRB)</p>

**3. DIMENSIONS**

Imperial:	according to ASTM A269 / A632	
OD x WT	1/4" to 6" (0.250 x 0.035 inch to 6.000 x 0.109 inch)	6,35 x 0,89 mm to 152,40 x 2,77 mm
Lenght	min. 19.36 ft to max. 19.98 ft	6000 mm -100/+90
Metric:		
OD x WT	6,00 x 1,00 mm to 35,00 x 1,50 mm	
Lenght	6000 mm -100/+90	
Manufacturing process:	Seamless tubes (≤ 1")	Welded or seamless tubes (> 1")

**4. QUALITY AND TEST PROCEDURES**

Verification of basic test certificate	Visual inspection	Endoscopic inspection of bright finished tubes
Verification of dimensions	Roughness measurements	

**5. TECHNICAL TERMS OF DELIVERY**

Tubes and fittings are prepared for orbital welding:

**Tubes**

Acc. to ASTM A 632 / A 269 / A 270, DIN EN 10217-7 / 10216-5 with a length of 5900 - 6090 mm (max. 10% short lengths of min. 3000 mm possible).

**Tube fitting components**

Prematerial acc. to ASTM A 269 / A 632 / A 312 / A 403 (Pipe), DIN EN 10217-7 / 10216-5

**Marking always with**

DOCKWEILER / DW-Number / Dimension / Material / Heat number

Tubes and fittings shall be permanently marked as per Dockweiler guideline AA 8.5.2-80. The marking must provide all necessary information to trace back the heat number and the material grade.

**6. DOCUMENTATION, PACKAGING & SHIPPING**

**Documentation**

The documentation result by the Dockweiler Inspection Certificate 3.1 according to DIN EN 10204. Optional online documentation WebCert.

**Packaging**

Bright finished tubes and fittings are capped with transparent PE caps and are individually sealed in PE foil.

The batch label on the foil contains the information finetron.

**Shipping**

Delivery in tubular container or wooden crate, fittings in strong cardboard box with shock absorbing filler.