

**CERTIFICATE****No. V/17-071543****Rev 00****Date 2017-09-14****Page 1/2**INSPECTION CERTIFICATE acc to
EN 10204 3.1Processkontroll Items AB
Box 2088
444 02 STORA H@GA
SWEDENINSPECTION STAMP
QA-TUBE

Customer References 755354	Sandvik References Order No. Subs No. Dispatch note 491052 159373 175410 Suppl. No C.Code 159373 58																																																																													
Material description SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING Steel making process Electric furnace	Steel/material Designations Sandvik EN no 5R75 1.4571																																																																													
Technical requirements PED 2014/68/EU EN 10216-5 TC1 NACE MR0175/ISO 15156-3:2015 HRB MAX 90																																																																														
EXTENT OF DELIVERY <table><thead><tr><th>It</th><th>Product designation</th><th>Heat</th><th>Lot</th><th>Kg</th><th>M</th></tr></thead><tbody><tr><td>01</td><td>THT-5R75-18-2.5 18.00 X 2.50</td><td>539610</td><td>30718</td><td>17.4</td><td>18.00</td></tr><tr><td colspan="4">Total</td><td>17.4</td><td>18.00</td></tr></tbody></table> TEST RESULTS Chemical composition (weight%) <table><thead><tr><th>Heat</th><th>C</th><th>Si</th><th>Mn</th><th>P</th><th>S</th><th>Cr</th><th>Ni</th><th>Mo</th></tr></thead><tbody><tr><td>539610</td><td>0.032</td><td>0.35</td><td>1.12</td><td>0.023</td><td>0.007</td><td>16.78</td><td>12.19</td><td>2.04</td></tr><tr><td></td><td>Ti</td><td>N</td><td colspan="6"></td></tr><tr><td>539610</td><td>0.37</td><td>0.013</td><td colspan="6"></td></tr></tbody></table> Tensile test at room temperature <table><thead><tr><th rowspan="2">Lot</th><th colspan="2">Yield strength</th><th>Tensile strength</th><th>Elongation</th></tr><tr><th>MPa</th><th>MPa</th><th>MPa</th><th>%</th></tr><tr><th></th><th>Rp0.2</th><th>Rp1.0</th><th>Rm</th><th>A</th></tr></thead><tbody><tr><td rowspan="2">30718</td><td>253</td><td>290</td><td>572</td><td>56</td></tr><tr><td>248</td><td>286</td><td>571</td><td>56</td></tr></tbody></table> Quality assurance - Lars-Åke Bergqvist / QA-manager MTC Service / Certificates		It	Product designation	Heat	Lot	Kg	M	01	THT-5R75-18-2.5 18.00 X 2.50	539610	30718	17.4	18.00	Total				17.4	18.00	Heat	C	Si	Mn	P	S	Cr	Ni	Mo	539610	0.032	0.35	1.12	0.023	0.007	16.78	12.19	2.04		Ti	N							539610	0.37	0.013							Lot	Yield strength		Tensile strength	Elongation	MPa	MPa	MPa	%		Rp0.2	Rp1.0	Rm	A	30718	253	290	572	56	248	286	571	56
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**Hardness test**

	Min	Max
Lot	HRB	HRB
30718	77	78

Following controls/tests have been satisfactorily performed:

- Flattening test.
- PMI-test.
- Intergranular corrosion test acc. to EN ISO3651-2, Method A.
- Leak test: Eddy current test acc to EN ISO 10893-1
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

Marking:

SANDVIK 5R75 EN 10216-5 TC1 EN 1.4571 CFA 18.00 X 2.50 MM HT 539610 SS LOS 30718 MADE BY SANDVIK IN SWEDEN *QA-TUBE*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

Approved acc. AD 2000-Merkblatt W0 and certified acc. to Pressure Equipment Directive (2014/68/EU, Annex 1 para 4.3) by TUEV NORD; notified body, reg.no. 0045.

The number of tests are based on the size of the manufacturing lot before cutting to finished lengths.

The delivered products comply with the specifications and requirements of the order.

The material is manufactured according to a Quality system, approved and registered to ISO 9001:2008.

No unauthorized alterations. The contents of this Inspection Certificate may not be modified or revised in any way without the prior written approval of AB Sandvik Materials Technology. Unauthorized alterations to the Inspection Certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both. This Inspection Certificate may be copied only in the manner and for the purposes specified in Section 6 of EN 10204:2004. Contravention of this notice will be prosecuted to the fullest extent of applicable law.

The certificate is produced with EDP and valid without signature.