

**CERTIFICATE****No. A/12-245876 Rev 00**
Date 2012-04-23 Page 1/2INSPECTION CERTIFICATE acc to
EN 10 204 3.1Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDENINSPECTION STAMP
QA-TUBE

Customer References 711358 003-00991 ITEMS Customer order 2012-04-17		Sandvik References Order No. Subs No. ABSMT Dispatch note 287728 525038 20379/54 ABSMT No. C.Code 300-64180 46																																																																																													
Material description SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING Steel making process Electric furnace		Steel/material Designations Sandvik SS 3R60 2353																																																																																													
Technical requirements SS 219713 Condition No -24																																																																																															
EXTENT OF DELIVERY <table><thead><tr><th>It</th><th>Product designation</th><th>Heat</th><th>Lot</th><th>Pieces</th><th>Kg</th><th>M</th></tr></thead><tbody><tr><td>01</td><td>THT-3R60-8-1.5 8.00 X 1.50</td><td>047793</td><td>97192</td><td>30</td><td>44.0</td><td>180.00</td></tr><tr><td colspan="4">Total</td><td>30</td><td>44.0</td><td>180.00</td></tr></tbody></table> <table><thead><tr><th colspan="2">KEY TO HEAT</th><th colspan="2">KEY TO LOT</th></tr><tr><th>Heat Code</th><th>Heat No.</th><th>Lot Code</th><th>Lot No.</th></tr></thead><tbody><tr><td>047793</td><td>529693</td><td>97192</td><td>361719</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>047793</td><td>0.017</td><td>0.39</td><td>1.65</td><td>0.030</td><td>0.007</td><td>17.29</td><td>13.24</td><td>2.54</td></tr><tr><td></td><td>N</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>047793</td><td>0.032</td><td></td><td></td><td></td><td></td><td></td><td></td><td></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">97192</td><td>273</td><td>304</td><td>571</td><td>58</td></tr><tr><td>290</td><td>321</td><td>586</td><td>58</td></tr></tbody></table> Quality assurance - Per Eriksson / QA-manager MTC Service / Certificates				It	Product designation	Heat	Lot	Pieces	Kg	M	01	THT-3R60-8-1.5 8.00 X 1.50	047793	97192	30	44.0	180.00	Total				30	44.0	180.00	KEY TO HEAT		KEY TO LOT		Heat Code	Heat No.	Lot Code	Lot No.	047793	529693	97192	361719	Heat	C	Si	Mn	P	S	Cr	Ni	Mo	047793	0.017	0.39	1.65	0.030	0.007	17.29	13.24	2.54		N								047793	0.032								Lot	Yield strength		Tensile strength	Elongation	MPa	MPa	MPa	%		Rp0.2	Rp1.0	Rm	A	97192	273	304	571	58	290	321	586	58
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**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 SS 114301/114305 E1
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

The raw material is free from radioactive contamination.

Material free from mercury contamination.

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.

The certificate is produced with EDP and valid without signature.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 00044616