

**CERTIFICATE****No. V/13-028864 Rev 00**
Date 2013-05-16 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 712805	Sandvik References Order No. Subs No. Dispatch note 331755 126491 129389 Suppl. No C.Code 126491 68																																																																				
Material description SEAMLESS STAINLESS COLD FINISHED PIPE Steel making process Electric furnace	Steel/material Designations Sandvik AISI 3R12 TP304/TP304L EN no 1.4306																																																																				
Technical requirements ASTM A-312-09, ASME SA-312-ED-10 AD-11A NACE MR0175/ISO 15156-3:2009 PED 97/23/EC EN 10216-5 TC1 TOLERANCES ACC. ASTM A312																																																																					
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>TST-3R12-1/2-SCH40 21.34 X 2.77</td><td>533301</td><td>49562</td><td>7.7</td><td>6.03</td></tr><tr><td colspan="4">Total</td><td>7.7</td><td>6.03</td></tr></tbody></table>		It	Product designation	Heat	Lot	Kg	M	01	TST-3R12-1/2-SCH40 21.34 X 2.77	533301	49562	7.7	6.03	Total				7.7	6.03																																																		
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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>N</th></tr></thead><tbody><tr><td>533301</td><td>0.011</td><td>0.39</td><td>1.19</td><td>0.028</td><td>0.008</td><td>18.44</td><td>10.11</td><td>0.052</td></tr></tbody></table> Chemical composition, product (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>N</th></tr></thead><tbody><tr><td>533301</td><td>0.011</td><td>0.40</td><td>1.19</td><td>0.029</td><td>0.008</td><td>18.38</td><td>10.12</td><td>0.057</td></tr></tbody></table> Tensile test at room temperature <table><thead><tr><th rowspan="3">Lot</th><th colspan="2">Yield strength</th><th>Tensile strength</th><th colspan="2">Elongation</th></tr><tr><th>MPa</th><th>MPa</th><th>MPa</th><th>%</th><th>%</th></tr><tr><th>Rp0.2</th><th>Rp1.0</th><th>Rm</th><th>A</th><th>2"</th></tr></thead><tbody><tr><td rowspan="3">49562</td><td>310</td><td>351</td><td>635</td><td>51</td><td>54</td></tr><tr><td>309</td><td>349</td><td>634</td><td>51</td><td>54</td></tr><tr><td>307</td><td>349</td><td>634</td><td>49</td><td>53</td></tr></tbody></table>		Heat	C	Si	Mn	P	S	Cr	Ni	N	533301	0.011	0.39	1.19	0.028	0.008	18.44	10.11	0.052	Heat	C	Si	Mn	P	S	Cr	Ni	N	533301	0.011	0.40	1.19	0.029	0.008	18.38	10.12	0.057	Lot	Yield strength		Tensile strength	Elongation		MPa	MPa	MPa	%	%	Rp0.2	Rp1.0	Rm	A	2"	49562	310	351	635	51	54	309	349	634	51	54	307	349	634	49	53
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Quality assurance - Per Eriksson / QA-manager MTC Service / Certificates																																																																					

**Hardness test**

	Min	Max
Lot	HRB	HRB
49562	80	81

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Ring expansion test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Leak test: Eddy current test acc to EN 10246-2 and ASTM Pr.E426 with drilled hole as reference standard in lieu of hydrostatic test.
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

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 (97/23/EC) 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.

The certificate is produced with EDP and valid without signature.