



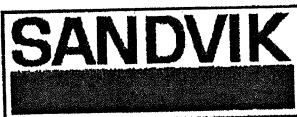
## CERTIFICATE

No. A/18-783174 Rev 00

Date 2018-11-09 Page 1/3

INSPECTION CERTIFICATE acc to  
EN 10204 3.1Van Leeuwen Stainless BV  
Industrieweg 26  
4153 BW BEESD  
THE NETHERLANDSINSPECTION STAMP  
QA-TUBE

<b>Customer References</b>  3490006  230-00991 LEEUBEES		<b>Sandvik References</b> Order No. Subs No. ABSMT Dispatch note 522305 658755 32994/54 ABSMT No. C.Code 300-86112 68																																																																									
<b>Material description</b> SEAMLESS STAINLESS HOT FINISHED PIPE     <b>Steel making process</b> Electric furnace		<b>Steel/material Designations</b> Sandvik AISI 3R65 TP316/TP316L EN no 1.4404																																																																									
<b>Technical requirements</b> ASTM A-312-17, ASME SA-312-ED-17 ASTM A-376-17, ASME SA-376-ED-17 NACE MR0175/ISO 15156-3:2015, NACE MR0103/ISO 17945:2015 PED 2014/68/EU EN 10216-5 TC1 TOLERANCES ACC. ASTM A-999																																																																											
<b>EXTENT OF DELIVERY</b> <table border="1"><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>12</td><td>TST-E-316L-1-SCH160</td><td>553660</td><td>46414</td><td>20</td><td>513.0</td><td>121.30</td></tr><tr><td></td><td>33.40 X 6.35</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>155424</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="4">Total</td><td>20</td><td>513.0</td><td>121.30</td></tr></tbody></table>				It	Product designation	Heat	Lot	Pieces	Kg	M	12	TST-E-316L-1-SCH160	553660	46414	20	513.0	121.30		33.40 X 6.35							155424						Total				20	513.0	121.30																																					
It	Product designation	Heat	Lot	Pieces	Kg	M																																																																					
12	TST-E-316L-1-SCH160	553660	46414	20	513.0	121.30																																																																					
	33.40 X 6.35																																																																										
	155424																																																																										
Total				20	513.0	121.30																																																																					
<b>TEST RESULTS</b> <b>Chemical composition (weight%)</b> <table border="1"><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>553660</td><td>0.012</td><td>0.39</td><td>1.74</td><td>0.032</td><td>0.008</td><td>16.72</td><td>11.21</td><td>2.03</td></tr><tr><td></td><td>Co</td><td>Cu</td><td>N</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>553660</td><td>0.12</td><td>0.29</td><td>0.061</td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> <b>Chemical composition, product (weight%)</b> <table border="1"><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>553660</td><td>0.012</td><td>0.37</td><td>1.68</td><td>0.029</td><td>0.007</td><td>16.74</td><td>11.00</td><td>2.00</td></tr><tr><td></td><td>Co</td><td>Cu</td><td>N</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>553660</td><td>0.12</td><td>0.29</td><td>0.061</td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>				Heat	C	Si	Mn	P	S	Cr	Ni	Mo	553660	0.012	0.39	1.74	0.032	0.008	16.72	11.21	2.03		Co	Cu	N						553660	0.12	0.29	0.061						Heat	C	Si	Mn	P	S	Cr	Ni	Mo	553660	0.012	0.37	1.68	0.029	0.007	16.74	11.00	2.00		Co	Cu	N						553660	0.12	0.29	0.061					
Heat	C	Si	Mn	P	S	Cr	Ni	Mo																																																																			
553660	0.012	0.39	1.74	0.032	0.008	16.72	11.21	2.03																																																																			
	Co	Cu	N																																																																								
553660	0.12	0.29	0.061																																																																								
Heat	C	Si	Mn	P	S	Cr	Ni	Mo																																																																			
553660	0.012	0.37	1.68	0.029	0.007	16.74	11.00	2.00																																																																			
	Co	Cu	N																																																																								
553660	0.12	0.29	0.061																																																																								
<b>Quality assurance - Helen Jämtemyr / QA-manager</b> <b>MTC Service / Certificates</b>																																																																											

**CERTIFICATE**

No. A/18-783174 Rev 00  
Date 2018-11-09 Page 2/3

**Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
46414	306	338	629	51	51

**Hardness test**

Lot	Min	Max
	HRB	HRB
46414	76	78

**Following controls/tests have been satisfactorily performed:**

- Flattening test.
- Flaring test
- 100% PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Leak test: Eddy current test acc to EN ISO 10893-1 and ASTM Pr.E426 with drilled hole as reference standard in lieu of hydrostatic test.
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed at a temperature of Min 1040° C and quenched.

**Marking:**

SANDVIK 3R65 ASTM A312/A376 ASME SA312/SA376 EN10216-5 TC1 TP 316/TP 316L EN 1.4404 HFD SML ET 33.40 X 6.35 MM 1 SCH 160 HT 553660 SS LOT 46414 \*QA-TUBE\* MA DE IN SWEDEN

The raw material is free from radioactive contamination.

Material free from mercury contamination.

No welding or weld repair.

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 9001:2015.

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.



**CERTIFICATE**

**No. A/18-783174 Rev 00**  
Date 2018-11-09 Page 3/3

The certificate is produced with EDP and valid without signature.