

A02/Z03

INSPECTION CERTIFICATE acc to
EN 10204 3.1

A06

PROCESSKONTROLL ITEMS AB
BOX 2088
444 02 STORA HÖGA
SWEDEN

INSPECTION STAMP

QA-TUBE

Customer References A07 763802	Alleima References A08 <table style="width: 100%;"> <tr> <td>Order No.</td> <td>Subs No.</td> <td>Dispatch note</td> </tr> <tr> <td>596408</td> <td>173621</td> <td>198635</td> </tr> <tr> <td>Suppl. No</td> <td>C.Code</td> <td></td> </tr> <tr> <td>173621</td> <td>15</td> <td></td> </tr> </table>	Order No.	Subs No.	Dispatch note	596408	173621	198635	Suppl. No	C.Code		173621	15																																																																									
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Material description B01/B04 SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING Metallurgical process C70 Electric furnace	Steel/material Designations B02 <table style="width: 100%;"> <tr> <td>Alleima</td> <td>AISI</td> </tr> <tr> <td>3R60</td> <td>TP316/TP316L</td> </tr> <tr> <td>EN no</td> <td></td> </tr> <tr> <td>1.4435</td> <td></td> </tr> </table>	Alleima	AISI	3R60	TP316/TP316L	EN no		1.4435																																																																													
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Technical requirements B03 ASTM A-213-21B AW, ASME SA-213-ED-21 AW, ASTM A-269-22 NACE MR0175/ISO 15156-3:-2015, NACE MR0103/ISO 17945-1:-2015 PED 2014/68/EU EN 10216-5 TC1 HRB MAX 80																																																																																					
<table style="width: 100%;"> <tr> <td colspan="5">EXTENT OF DELIVERY</td> <td style="text-align: right;">B07-B13</td> </tr> <tr> <td style="text-align: center;">It</td> <td style="text-align: center;">Product designation</td> <td style="text-align: center;">Heat</td> <td style="text-align: center;">Lot</td> <td style="text-align: center;">Kg</td> <td style="text-align: center;">M</td> </tr> <tr> <td style="text-align: center;">03</td> <td>THT-3R60-16-2</td> <td style="text-align: center;">044463</td> <td style="text-align: center;">96903</td> <td style="text-align: center;">353.3</td> <td style="text-align: center;">504.00</td> </tr> <tr> <td></td> <td>16.00 X 2.00</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>12002</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td style="text-align: center;">353.3</td> <td style="text-align: center;">504.00</td> </tr> </table> <table style="width: 100%;"> <tr> <td colspan="2">KEY TO HEAT</td> <td colspan="2">KEY TO LOT</td> </tr> <tr> <td style="text-align: center;">Heat Code</td> <td style="text-align: center;">Heat No.</td> <td style="text-align: center;">Lot Code</td> <td style="text-align: center;">Lot No.</td> </tr> <tr> <td style="text-align: center;">044463</td> <td style="text-align: center;">567184</td> <td style="text-align: center;">96903</td> <td style="text-align: center;">2086614-11</td> </tr> </table> TEST RESULTS Chemical composition (weight%) <table style="width: 100%;"> <tr> <td style="text-align: center;">Heat</td> <td style="text-align: center;">C</td> <td style="text-align: center;">Si</td> <td style="text-align: center;">Mn</td> <td style="text-align: center;">P</td> <td style="text-align: center;">S</td> <td style="text-align: center;">Cr</td> <td style="text-align: center;">Ni</td> <td style="text-align: center;">Mo</td> </tr> <tr> <td style="text-align: center;">044463</td> <td style="text-align: center;">0.018</td> <td style="text-align: center;">0.39</td> <td style="text-align: center;">1.74</td> <td style="text-align: center;">0.032</td> <td style="text-align: center;">0.006</td> <td style="text-align: center;">17.52</td> <td style="text-align: center;">13.25</td> <td style="text-align: center;">2.62</td> </tr> <tr> <td></td> <td style="text-align: center;">N</td> <td colspan="7"></td> </tr> <tr> <td style="text-align: center;">044463</td> <td style="text-align: center;">0.035</td> <td colspan="7"></td> </tr> </table>		EXTENT OF DELIVERY					B07-B13	It	Product designation	Heat	Lot	Kg	M	03	THT-3R60-16-2	044463	96903	353.3	504.00		16.00 X 2.00						12002					Total				353.3	504.00	KEY TO HEAT		KEY TO LOT		Heat Code	Heat No.	Lot Code	Lot No.	044463	567184	96903	2086614-11	Heat	C	Si	Mn	P	S	Cr	Ni	Mo	044463	0.018	0.39	1.74	0.032	0.006	17.52	13.25	2.62		N								044463	0.035							
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Quality assurance - Sofia Åkesson / Q-Manager MTC Service / Certificates		A05/Z02																																																																																			



Chemical composition, product (weight%)

Heat	C	Si	Mn	P	S	Cr	Ni	Mo
044463	0.019	0.41	1.70	0.031	0.007	17.36	13.16	2.60
	N							
044463	0.030							

Tensile test at room temperature

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
96903	269	303	564	54	55
	269	302	566	56	57

Hardness test

	Min	Max
Lot	HRB	HRB
96903	74	76

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- 100% PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E and EN ISO 3651-2A
- Leak test: Eddy current test acc to EN ISO 10893-1, ASME SA-1016.
- Visual inspection and dimensional control.

Heat Treatment:

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

Marking:

3R60 ASTM/ASME A/SA213 A269 COLD EN 10216-5 TC1 AW TP 316/TP 316L EN 1.4435 CF A SML NDE 16.00 X 2.00 MM . HT 567184 SZ LOT 2086614-11 MADE BY ALLEIMA IN CZE CHIA *QA-TUBE*

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 Alleima.

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.

Alleima, formerly Sandvik Materials Technology. During a brand transition period, both Sandvik and Alleima marking on products may exist.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO C-8637/40

