

KONTROLLINTYG enligt
EN 10 204 3.1

Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDEN

INSPEKTIONSSTÄMPEL
QA-TUBE

Kundreferenser		Sandvik Referenser						
708206/Holmgren	kundorder 2010-01-13	Order Nr. 180671	Subs Nr. 160216					
003-00991	ITEMS	ABSMT Nr. 300-14828	ABSMT Packnota 43777/54					
Materialbeskrivning SÖMLÖSA ROSTFRIA KALLBEARBETADE HYDRAULRÖR		Stål/materialbeteckningar Sandvik SS 3R60 2353 AISI AFNOR TP316/TP316L Z2CND17-13 W.nr DIN 1.4435 X 2 CRNIMO 18 14 3 EN no 1.4436/1.4435						
Smältmetod Elektrisk ugn								
Tekniska fordringar/krav PED/23/EG, EN 10216 TC1 SS 219711, DIN 17458 TC1, NFA 49-117-09/85 ASTM A-213-08 AW, ASME SA-213-ED-07 AD-09B AW, ASTM A-269-08 NACE MR0175/ISO 15156-3:2003, HRB Max 80								
LEVERANSOMFATTNING								
Pos	Produktbeteckning	Charge	AO	Antal	Kg	M		
01	THT-3R60-12-1	047350	92915	125	207.0	750.00		
	12.00 X 1.00	047350	92917	42	68.0	252.00		
			Summa	167	275.0	1002.00		
NYCKEL TILL CHARGE		NYCKEL TILL AO						
Charge kod	Charge Nr.	Ao kod	Ao Nr.					
047350	523397	92915	4844229/1-2					
		92917	4844232/1-1					
PROVNINGSRESULTAT								
Kemisk sammansättning (vikts%)								
Charge	C	Si	Mn	P	S	Cr	Ni	Mo
047350	0.018	0.36	1.79	0.027	0.008	17.27	13.20	2.52
	N							
047350	0.036							
Kemisk sammansättning, produkt (vikts%)								
Charge	C	Si	Mn	P	S	Cr	Ni	Mo
047350	0.020	0.35	1.77	0.027	0.008	17.18	13.33	2.51
	N							
047350	0.037							
Kvalitetssäkring - Per Eriksson/ QA-manager Tube & Pipe MTC Service / Certificates								

**Dragprovning vid rumstemperatur**

Ao	Sträckgräns		Brottgräns	Förlängning	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
92915	289	318	547	45	51
	293	348	570	45	50
	291	314	563	46	50
	282	333	549	46	50
92917	249	292	546	57	52
	246	291	539	58	50
	254	294	543	55	52

Hårdhetsprovning

Ao	Min	Max
	HRB	HRB
92915	71	73
92917	73	74

Följande kontroller/provningar har utförts med tillfredställande res:

- Plattningsprov
- Vidgningsprov
- PMI-provning.
- Interkristallin korrosionsprovning enligt ASTM A-262 PR.E
- Interkristallin korrosionsprovning enligt EN ISO3651-2, Metod A.
- Täthetsprovning: Induktivprovning enl EN 10246-2, ASME SA-1016.
- Visuell inspektion och dimensionskontroll.

Värmebehandling:

Upplösningsbehandlat och släckt.

Märkning:

SANDVIK 3R60 ASTM/ASME A/SA-213AW/A-269 NFA 49-117 EN 10216-5 TC1 SS 2353-22
WNR 1.4435 TP 316/TP 316L Z2CND17-13 EN 1.4435 M S PK1 12.00 X 1.00 MM HT 5233
97 SZ LOT 4844229/1-2 DIN 2391 *QA-TUBE*
SANDVIK 3R60 ASTM/ASME A/SA-213AW/A-269 NFA 49-117 EN 10216-5 TC1 SS 2353-22
WNR 1.4435 TP 316/TP 316L Z2CND17-13 EN 1.4435 M S PK1 12.00 X 1.00 MM HT 5233
97 SZ LOT 4844232/1-1 DIN 2391 *QA-TUBE*

Godkänd enligt AD 2000-Merkblatt W0 och certifierad enligt tryckkärlsdirektivet, Pressure Equipment Directive(97/23/EG) av TUEV NORD GmbH; anmält organ, reg.no. 0045.

Antalet prover är baserat på A0-storlek före ev.delning.

De levererade produkterna uppfyller specifikationer och krav i ordern.

Materialet är tillverkat enligt ett kvalitetssystem, godkänt och certifierat mot ISO 9001.

Intyget är ADB-framställt och giltigt utan underskrift.

PROVNINGSRESULTATEN ÖVERFÖRDA FRÅN CERTIFIKAT NR A100053
A100053

**CERTIFICATE****No. A/10-933416 Rev 00**
Date 2010-01-26 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 708206/Holmgren 003-00991 ITEMS		Customer order 2010-01-13		Sandvik References Order No. Subs No. ABSMT Dispatch note 180671 160216 43777/54 ABSMT No. C.Code 300-14828 15																																																																																																																						
Material description SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING Steel making process Electric furnace		Steel/material Designations Sandvik SS 3R60 2353 AISI AFNOR TP316/TP316L Z2CND17-13 W.nr DIN 1.4435 X 2 CRNIMO 18 14 3 EN no 1.4436/1.4435																																																																																																																								
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EXTENT OF DELIVERY <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>01</td><td>THT-3R60-12-1</td><td>047350</td><td>92915</td><td>125</td><td>207.0</td><td>750.00</td></tr><tr><td></td><td>12.00 X 1.00</td><td>047350</td><td>92917</td><td>42</td><td>68.0</td><td>252.00</td></tr><tr><td colspan="4"></td><td>Total</td><td>167</td><td>275.0 1002.00</td></tr></tbody></table> <table border="0"><tr><td colspan="2">KEY TO HEAT</td><td colspan="2">KEY TO LOT</td></tr><tr><td>Heat Code</td><td>Heat No.</td><td>Lot Code</td><td>Lot No.</td></tr><tr><td>047350</td><td>523397</td><td>92915</td><td>4844229/1-2</td></tr><tr><td></td><td></td><td>92917</td><td>4844232/1-1</td></tr></table> TEST RESULTS Chemical composition (weight%) <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>047350</td><td>0.018</td><td>0.36</td><td>1.79</td><td>0.027</td><td>0.008</td><td>17.27</td><td>13.20</td><td>2.52</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>047350</td><td>0.036</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> Chemical composition, product (weight%) <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>047350</td><td>0.020</td><td>0.35</td><td>1.77</td><td>0.027</td><td>0.008</td><td>17.18</td><td>13.33</td><td>2.51</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>047350</td><td>0.037</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>							It	Product designation	Heat	Lot	Pieces	Kg	M	01	THT-3R60-12-1	047350	92915	125	207.0	750.00		12.00 X 1.00	047350	92917	42	68.0	252.00					Total	167	275.0 1002.00	KEY TO HEAT		KEY TO LOT		Heat Code	Heat No.	Lot Code	Lot No.	047350	523397	92915	4844229/1-2			92917	4844232/1-1	Heat	C	Si	Mn	P	S	Cr	Ni	Mo	047350	0.018	0.36	1.79	0.027	0.008	17.27	13.20	2.52		N								047350	0.036								Heat	C	Si	Mn	P	S	Cr	Ni	Mo	047350	0.020	0.35	1.77	0.027	0.008	17.18	13.33	2.51		N								047350	0.037							
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**CERTIFICATE****No. A/10-933416****Rev 00****Date 2010-01-26****Page 2/2****Tensile test at room temperature**

Lot	Yield strength		Tensile strength	Elongation	
	MPa	MPa	MPa	%	%
	Rp0.2	Rp1.0	Rm	A	2"
92915	289	318	547	45	51
	293	348	570	45	50
	291	314	563	46	50
	282	333	549	46	50
92917	249	292	546	57	52
	246	291	539	58	50
	254	294	543	55	52

Hardness test

Lot	Min	Max
	HRB	HRB
92915	71	73
92917	73	74

Following controls/tests have been satisfactorily performed:

- Flattening test.
- Flaring test
- PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Intergranular corrosion test acc. to EN ISO3651-2, Method A.
- Leak test: Eddy current test acc to EN 10246-2, ASME SA-1016.
- Visual inspection and dimensional control.

Heat Treatment:

Solution annealed and quenched.

Marking:

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Approved acc. AD 2000-Merkblatt W0 and certified acc. to
Pressure Equipment Directive (97/23/EC) by
TUEV NORD GmbH; 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.

The certificate is produced with EDP and valid without signature.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO A100053
A100053