



**CERTIFICATE**

**No. A/13-312278**

**Rev 00**

**Date 2013-02-06**

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INSPECTION CERTIFICATE acc to  
EN 10 204 3.1

Processkontroll Items AB  
Box 2088  
444 02 STORA HÖGA  
SWEDEN

INSPECTION STAMP  
QA-TUBE

<b>Customer References</b>		<b>Sandvik References</b>		
712319	Customer order 2013-01-16	Order No. 317936	Subs No. 542356	ABSMT Dispatch note 41338/54
003-00991	ITEMS	ABSMT No. 300-79212	C.Code 46	

<b>Material description</b> SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING	<b>Steel/material Designations</b> Sandvik SS 3R60 2353
<b>Steel making process</b> Electric furnace	

<b>Technical requirements</b> SS 219713 Condition No -24
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<b>EXTENT OF DELIVERY</b>						
<b>It</b>	<b>Product designation</b>	<b>Heat</b>	<b>Lot</b>	<b>Pieces</b>	<b>Kg</b>	<b>M</b>
02	THT-3R60-16-2 16.00 X 2.00	534345	53649	15	64.0	90.00
				<b>Total</b>	15	64.0 90.00

<b>TEST RESULTS</b>								
<b>Chemical composition (weight%)</b>								
<b>Heat</b>	<b>C</b>	<b>Si</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Cr</b>	<b>Ni</b>	<b>Mo</b>
534345	0.020	0.36	1.60	0.030	0.008	17.26	13.11	2.53
	<b>N</b>							
534345	0.042							

<b>Tensile test at room temperature</b>					
	<b>Yield strength</b>		<b>Tensile strength</b>		<b>Elongation</b>
	<b>MPa</b>	<b>MPa</b>	<b>MPa</b>		<b>%</b>
<b>Lot</b>	<b>Rp0.2</b>	<b>Rp1.0</b>	<b>Rm</b>		<b>A</b>
53649	302	345	578		56

**Following controls/tests have been satisfactorily performed:**  
- Flattening test.  
- PMI-test.  
- Intergranular corrosion test acc. to EN ISO3651-2, Method A.

**Quality assurance - Per Eriksson / QA-manager**  
**MTC Service / Certificates**



- 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 9001:2008.

The certificate is produced with EDP and valid without signature.