



**CERTIFICATE**

**No. A/10-942558**

**Rev 00**

**Date 2010-02-26**

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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>		
708330	Customer order 2010-02-16	Order No. 185426	Subs No. 163989	ABSMT Dispatch note 46530/54
003-00991	ITEMS	ABSMT No. 300-17005	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>
01	THT-3R60-16-1.5 16.00 X 1.50	520128	42811	10	33.0	60.00
				<b>Total</b>	10	33.0 60.00

<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>
520128	0.017	0.43	1.53	0.028	0.005	17.22	13.21	2.55
	<b>N</b>							
520128	0.038							

<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>
42811	313	354	587		50
	321	359	587		49

**Following controls/tests have been satisfactorily performed:**  
- Flattening test.  
- PMI-test.

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



- Intergranular corrosion test acc. to EN ISO3651-2, Method A.
- Leak test: Eddy current test acc to SS 114301/114305 E1
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed and quenched.

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.