SANDVIK

## CERTIFICATE

No. A/10-110397

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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

Customer References

Customer

order

2010-10-28

003-00991 ITEMS

709323

Sandvik References

Order No. Subs No. ABSMT Dispatch note

218469 189726 21036/54

ABSMT No. C.Code 300-31535 03

Material description

SEAMLESS STAINLESS COLD FINISHED

HYDRAULIC TUBING

Steel/material Designations

Sandvik SS 3R60 2353

Steel making process

Electric furnace

Technical requirements

SS 219713

Condition No -24

EXTENT OF DELIVERY

It Product designation Heat Lot Pieces M Kg

01 THT-3R60-16-2 047598 95129 70 297.0 420.00 16.00 X 2.00

Total 70 297.0 420.00

KEY TO HEAT KEY TO LOT

Lot Code Lot No. Heat Code Heat No.

047598 525990 95129 4847331/1-1

TEST RESULTS

Chemical composition (weight%)

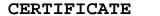
Heat C Si Mn P  $\mathtt{Cr}$ Νi Mo S 2.54

0.030 0.007 17.21 047598 0.018 0.38 1.71 13.15

N

047598 0.040

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



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Tensile test		temperature strength MPa	Tensile strength MPa	Elongation
Lot	Rp0.2	Rp1.0	Rm	A
95129	274	322	590	52
	277	321	592	51
	276	320	591	52
	278	325	597	52

## Following controls/tests have been satisfactorily performed:

- Flattening test.
- PMI-test.
- 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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO A1012698