



CERTIFICATE

No. A/15-541899

Rev 00

Date 2015-12-03

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INSPECTION CERTIFICATE acc to
EN 10 204 3.1

Processkontroll Items AB
Box 2088
444 02 STORA HÖGA

INSPECTION STAMP
QA-TUBE

| | | | | |
|----------------------------|------------------------------|---------------------------|--------------------|---------------------------------|
| Customer References | | Sandvik References | | |
| 752561 | Customer order 2015-11-02 | Order No. 421878 | Subs No. 599421 | ABSMT Dispatch note 08314/54 |
| 003-00991 | ITEMS | ABSMT No. 300-37640 | C.Code 46 | |

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

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|--|
| Technical requirements SS 219713 Condition No -24 |
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| | | | | | | | | |
|---|-------------------------------|--------------|-------------------------|---------------|-------------------|--------------|-----------|-----------|
| EXTENT OF DELIVERY | | | | | | | | |
| It | Product designation | Heat | Lot | Pieces | Kg | M | | |
| 01 | THT-3R60-8-1.5 8.00 X 1.50 | 048177 | 48374 | 80 | 113.0 | 480.00 | | |
| | | | | Total | 80 | 113.0 480.00 | | |
| KEY TO HEAT | | | | | | | | |
| Heat Code | Heat No. | | | | | | | |
| 048177 | 542213 | | | | | | | |
| TEST RESULTS | | | | | | | | |
| Chemical composition (weight%) | | | | | | | | |
| Heat | C | Si | Mn | P | S | Cr | Ni | Mo |
| 048177 | 0.018 | 0.42 | 1.80 | 0.026 | 0.0090 | 17.30 | 13.09 | 2.52 |
| | N | | | | | | | |
| 048177 | 0.034 | | | | | | | |
| Tensile test at room temperature | | | | | | | | |
| | Yield strength | | Tensile strength | | Elongation | | | |
| | MPa | MPa | MPa | % | | | | |
| Lot | Rp0.2 | Rp1.0 | Rm | A | | | | |
| 48374 | 267 | 307 | 553 | 56 | | | | |

Quality assurance - Lars-Åke Bergqvist / QA-manager
MTC Service / Certificates

**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 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.

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The certificate is produced with EDP and valid without signature.