



CERTIFICATE

No. A/15-545910

Rev 00

Date 2015-12-22

Page 1/2

INSPECTION CERTIFICATE acc to
EN 10204 3.1

Processkontroll Items AB
Box 2088
444 02 STORA HÖGA
SWEDEN

INSPECTION STAMP
QA-TUBE

| Customer References | | Sandvik References | | |
|---------------------|------------------------------|--------------------|----------|---------------------|
| 752771 | Customer order 2015-12-15 | Order No. | Subs No. | ABSMT Dispatch note |
| 003-00991 | ITEMS | 426436 | 601895 | 11297/54 |
| | | ABSMT No. | C.Code | |
| | | 300-39656 | 46 | |

| Material description | Steel/material Designations |
|--|-----------------------------|
| SEAMLESS STAINLESS COLD FINISHED HYDRAULIC TUBING | 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 | Kg | M | | |
| 01 | THT-3R60-6-1 6.00 X 1.00 | 048152 | 46140 | 35 | 26.0 | 210.00 | | |
| | | | | Total | 35 | 26.0 | 210.00 | |
| KEY TO HEAT | | | | | | | | |
| Heat Code | Heat No. | | | | | | | |
| 048152 | 541031 | | | | | | | |
| TEST RESULTS | | | | | | | | |
| Chemical composition (weight%) | | | | | | | | |
| Heat | C | Si | Mn | P | S | Cr | Ni | Mo |
| 048152 | 0.019 | 0.37 | 1.58 | 0.030 | 0.0090 | 17.25 | 13.11 | 2.54 |
| | N | | | | | | | |
| 048152 | 0.039 | | | | | | | |
| Tensile test at room temperature | | | | | | | | |
| Lot | Yield strength | | Tensile strength | | Elongation | | | |
| | MPa | MPa | MPa | | % | | | |
| | Rp0.2 | Rp1.0 | Rm | | A | | | |
| 46140 | 330 | 371 | 571 | | 53 | | | |

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.

No unauthorized alterations. The contents of this Inspection Certificate may not be modified or revised in any way without the prior written approval of AB Sandvik Materials Technology. Unauthorized alterations to the Inspection Certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both. This Inspection Certificate may be copied only in the manner and for the purposes specified in Section 6 of EN 10204:2004. Contravention of this notice will be prosecuted to the fullest extent of applicable law.

The certificate is produced with EDP and valid without signature.