

**CERTIFICATE****No. A/18-779451 Rev 00**

Date 2018-10-25 Page 1/3

INSPECTION CERTIFICATE acc to  
EN 10204 3.1Processkontroll Items AB  
Box 2088  
444 02 STORA HÖGA  
SWEDENINSPECTION STAMP  
QA-TUBE**Customer References**

757074

Customer  
order  
2018-10-24

003-00991 ITEMS

**Sandvik References**Order No. Subs No. ABSMT Dispatch note  
525112 661032 31842/54  
ABSMT No. C.Code  
300-88087 11**Material description**SEAMLESS STAINLESS COLD FINISHED  
INSTRUMENTATION TUBING**Steel making process**

Electric furnace

**Steel/material Designations**Sandvik AISI  
3R60 TP316/TP316L  
EN no  
1.4435**Technical requirements**ASTM A-632-04  
NACE MR0175/ISO 15156-3:2015, NACE MR0103/ISO 17945:2015  
PED 2014/68/EU EN 10216-5 TC1  
HRB MAX 80**EXTENT OF DELIVERY**

| It | Product designation              | Heat   | Lot   | Pieces | Kg  | M     |
|----|----------------------------------|--------|-------|--------|-----|-------|
| 01 | THT-3R60-3.18-0.71<br>3.18 X .71 | 048715 | 96265 | 6      | 2.0 | 36.00 |

|       |   |     |       |
|-------|---|-----|-------|
| Total | 6 | 2.0 | 36.00 |
|-------|---|-----|-------|

**KEY TO HEAT**

| Heat Code | Heat No. |
|-----------|----------|
| 048715    | 552160   |

**KEY TO LOT**

| Lot Code | Lot No.    |
|----------|------------|
| 96265    | 0002004797 |

**TEST RESULTS****Chemical composition (weight%)**

| Heat   | C     | Si   | Mn   | P     | S     | Cr    | Ni    | Mo   |
|--------|-------|------|------|-------|-------|-------|-------|------|
| 048715 | 0.018 | 0.38 | 1.70 | 0.031 | 0.007 | 17.34 | 13.11 | 2.63 |
|        | N     |      |      |       |       |       |       |      |
| 048715 | 0.037 |      |      |       |       |       |       |      |

**Quality assurance - Sofia Åkesson / Q-Manager**  
**MTC Service / Certificates**

**Chemical composition, product (weight%)**

| Heat   | C     | Si   | Mn   | P     | S     | Cr    | Ni    | Mo   |
|--------|-------|------|------|-------|-------|-------|-------|------|
| 048715 | 0.017 | 0.38 | 1.69 | 0.031 | 0.006 | 17.34 | 13.06 | 2.63 |
|        | N     |      |      |       |       |       |       |      |
| 048715 | 0.044 |      |      |       |       |       |       |      |

**Tensile test at room temperature**

| Lot   | Yield strength |       | Tensile strength | Elongation |    |
|-------|----------------|-------|------------------|------------|----|
|       | MPa            | MPa   | MPa              | %          | %  |
|       | Rp0.2          | Rp1.0 | Rm               | A          | 2" |
| 96265 | 305            | 338   | 562              | 58         | 47 |
|       | 286            | 318   | 559              | 59         | 47 |

**Hardness test**

| Lot   | Min | Max |
|-------|-----|-----|
|       | HRB | HRB |
| 96265 | 74  | 74  |

**Following controls/tests have been satisfactorily performed:**

- Flattening test.
- Flaring test
- 100% PMI-test.
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Leak test: Eddy current test acc to EN 10246-2
- Visual inspection and dimensional control.

**Heat Treatment:**

Solution annealed and quenched.

**Marking:**

SANDVIK 3R60 ASTM A632 EN10216-5 TC1 EN 1.4435 TP316/TP316L CFA SML 3.18 X 0.7  
1 MM 1/8" X 22 BWG HT 552160 SG LOT 0002004797 \*QA-TUBE\*

The raw material is free from radioactive contamination.

Material free from mercury contamination.

No welding or weld repair.

Approved acc. AD 2000-Merkblatt W0 and certified acc. to  
Pressure Equipment Directive (2014/68/EU, Annex 1 para 4.3) by  
TUEV NORD; notified body, reg.no. 0045.

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 9001:2015.



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.

TEST RESULTS TRANSFERRED FROM CERTIFICATE NO 0002004797