



CERTIFICATE

No. A/03-185338 Rev 00
Date 2003-03-13 Page 1/2

INSPECTION CERTIFICATE acc to
EN 10 204 3.1.B

SANDVIK DE MEXICO S.A. DE C.V.
VIA GUSTAVO BAZ 352
COL. LA LOMA
TLALNEPANTLA EDO. DE MEXICO
CP 54060 MEXICO

INSPECTION STAMP
QA-TUBE

| | | | |
|---|-------------------------------------|--|--|
| Customer References 560-00991 | Customer order 2003-02-13 | Sandvik References | |
| | | Order No. 300-10741 | Subs No. 80304 ABSMT No. 68 |
| | | ABSMT Dispatch note 40915/54 | |

| | | |
|---|---|-----------------------------|
| Material description SEAMLESS STAINLESS COLD FINISHED PIPE | Steel/material Designations Sandvik 3R65 | AISI TP316/TP316L |
| Steel making process Electric furnace | | |

Technical requirements
ASTM A-312-01, ASME SA-312-ED-01 AD-02
NACE MR 01-75

EXTENT OF DELIVERY

| It | Product designation | Heat | Lot | Pieces | Kg | M |
|----|------------------------------------|--------|-------|--------------|-------|--------------|
| 01 | TST-316L-3/4-SCH40 26.67 X 2.87 | 458250 | 36964 | 17 | 173.0 | 104.53 |
| | | | | Total | 17 | 173.0 104.53 |

TEST RESULTS

Chemical composition (weight%)

| Heat | C | Si | Mn | P | S | Cr | Ni | Mo |
|--------|-------|-------|------|-------|-------|-------|-------|------|
| 458250 | 0.011 | 0.36 | 1.67 | 0.030 | 0.009 | 16.76 | 11.20 | 2.03 |
| | Co | N | | | | | | |
| 458250 | 0.088 | 0.062 | | | | | | |

Tensile test at room temperature

| Lot | Yield strength | | Tensile strength | | Elongation |
|-------|----------------|--|------------------|--|------------|
| | N/mm2 | | N/mm2 | | % |
| | Rp0.2 | | Rm | | 2" |
| 36964 | 319 | | 601 | | 58 |
| | 287 | | 606 | | 58 |
| | 345 | | 593 | | 59 |

Leak test: Eddy current test acc to Practice E426 with drilled hole as reference standard on all tubes, with the exception of those lots which have been hydrostatically tested.

Quality assurance - Carl-Filip Lindahl/ QA-manager Tube & Pipe
MTC Service / Certificates

Hardness test

| | Min | Max |
|-------|------|------|
| Lot | HRB | HRB |
| 36964 | 74.0 | 80.0 |

Following controls/tests have been satisfactorily performed:

- Flattening test
- Intergranular corrosion test acc to ASTM A-262 PR.E
- Material Identification
- 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 9002.

The certificate is produced with EDP and valid without signature