



SILCOTUB SA

Quality and Service
SOL. MIBAI VENTZU MOSES
4700 ZALAM
MOHAKAIA

MILL TEST CERTIFICATE
ACCORDING TO EN 10362-1

| | | | | |
|---|---------------------|--|---------------------|--|
| DATE 11.02.2002 | ORDER NO. NO 188300 | SPECIFICATION ASTM A 578/MSR; ASTM A 578/MSK; | No. 3 | PAGE 2 OF 3 |
| DUFERCO SA VIA SOCIETÀ SERIO LUBANO SANTERZELAND | | | EXTERNAL GRADE B | WAGON NO.: SHIP BODY NO.: TRUCK NO.: |

| No. | SIZE | HEAT NUMBER | NUMBER OF PIECES | NUMBER OF PIECES | LENGTH IN METERS | WEIGHT IN TD (NETTIC TON) | ITEM | LOT |
|-----|------------------------------|-------------|------------------|------------------|------------------|---------------------------|------|-----|
| 1 | 4" SCH 40 (114.30 x 6.02 mm) | 34004 | 353 | | | | 3 | |
| | | 04311 | 38 | | | | | |
| | | 99917 | 114 | | | | | |
| | | 34003 | 38 | | | | | |
| | | 31882 | 57 | | | | | |
| | | 99987 | 76 | | | | | |

DESCRIPTION
483414 TM, SEAMLESS PIPE A-578GR B SRL, OUTSIDE VARNISHED WITH BLACK LAQUER (DUFERCO REF. NO 188300)

| No. | HEAT | Sample no. | CHEMICAL COMPOSITION % | | | | | | | | | | OTHER TESTS | | | Hydrostatic PSI | NONDESTRUCTIVE TEST | | |
|-----|-------|------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|---------|---------|-----------------|---------------------|----------|---|
| | | | C | Mn | Si | P | S | Cr | Ni | Mo | Cu | V | Flaking | Beading | Flaring | | | Hardness | |
| 1 | 34004 | 39189 | 0.178 | 0.551 | 0.243 | 0.011 | 0.003 | 0.127 | 0.108 | 0.008 | 0.184 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| | 34004 | 39190 | 0.176 | 0.551 | 0.244 | 0.011 | 0.003 | 0.128 | 0.105 | 0.008 | 0.183 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| 2 | 04311 | 39183 | 0.145 | 0.588 | 0.263 | 0.008 | 0.005 | 0.049 | 0.084 | 0.012 | 0.215 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| | 04311 | 39184 | 0.145 | 0.590 | 0.261 | 0.008 | 0.005 | 0.049 | 0.084 | 0.012 | 0.213 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| 3 | 99917 | 39189 | 0.233 | 0.922 | 0.308 | 0.013 | 0.006 | 0.152 | 0.113 | 0.021 | 0.202 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| | 99917 | 39170 | 0.232 | 0.816 | 0.310 | 0.013 | 0.006 | 0.151 | 0.113 | 0.021 | 0.203 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| 4 | 34003 | 39185 | 0.178 | 0.550 | 0.246 | 0.012 | 0.006 | 0.128 | 0.107 | 0.008 | 0.187 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| | 34003 | 39189 | 0.175 | 0.557 | 0.247 | 0.012 | 0.005 | 0.127 | 0.108 | 0.008 | 0.188 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| 5 | 31882 | 39187 | 0.184 | 0.585 | 0.256 | 0.012 | 0.003 | 0.129 | 0.105 | 0.008 | 0.188 | 0.000 | 0.000 | GOOD | - | - | - | 2210 | - |
| | 31882 | 39188 | 0.184 | 0.587 | 0.248 | 0.012 | 0.003 | 0.128 | 0.107 | 0.008 | 0.189 | 0.000 | 0.000 | GOOD | - | - | - | 2210 | - |
| 6 | 99987 | 39181 | 0.233 | 0.784 | 0.307 | 0.012 | 0.009 | 0.153 | 0.113 | 0.021 | 0.201 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |
| | 99987 | 39182 | 0.233 | 0.787 | 0.310 | 0.012 | 0.009 | 0.153 | 0.113 | 0.021 | 0.201 | 0.001 | 0.001 | GOOD | - | - | - | 2210 | - |

| No. | HEAT | Sample no. | Dimensions Inch x Inch | Section Inch ² | Length Inch | TENSILE STRENGTH | | | TRACTION | | | Elongation | | | TEMP. | SHEAR |
|-----|-------|------------|------------------------|---------------------------|-------------|------------------|-------|------------|---------------|-------|------------|---------------|------|----------|-------|-------|
| | | | | | | Required Min. | Max. | Result PSI | Required Min. | Max. | Result PSI | Required Min. | Max. | Result % | | |
| 1 | 34004 | 39189 | 0.99 x 0.23 | 0.23 | 2.00 | 80000 | 72968 | 35000 | 49928 | 23.00 | 34.30 | 1 | | | | |
| 2 | 04311 | 39183 | 0.99 x 0.23 | 0.23 | 2.00 | 80000 | 68508 | 35000 | 48272 | 23.00 | 35.40 | 1 | | | | |
| 3 | 99917 | 39188 | 0.99 x 0.23 | 0.22 | 2.00 | 80000 | 86879 | 35000 | 53200 | 23.00 | 25.70 | 1 | | | | |
| 4 | 34003 | 39185 | 1.00 x 0.23 | 0.23 | 2.00 | 80000 | 70910 | 35000 | 44186 | 23.00 | 35.40 | 1 | | | | |
| 5 | 31882 | 39187 | 1.00 x 0.23 | 0.23 | 2.00 | 80000 | 70270 | 35000 | 47428 | 23.00 | 33.10 | 1 | | | | |
| 6 | 99987 | 39181 | 0.98 x 0.25 | 0.25 | 2.00 | 80000 | 85968 | 35000 | 51335 | 23.00 | 30.20 | 1 | | | | |
| | | | | | | | | | | | | | | | | |

TEST SPECIMEN

MECHANICAL PROPERTIES

TENSILE

TRACTION

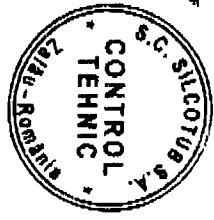
ELONGATION

GRAINY FRACTURE

TEMP.

SHEAR

SIGNATURE



QUALITY DEPT. CHIEF
ING. TIBERIU ERDEI