

Tab.1 Dimensional range and Cost categories - Hot rolled tubes for carbon boilers made in Workshop no.2 CPE

ARTROM STEEL TUBES

| WT    | mm    | 2.3                 | 2.6   | 2.77  | 2.87  | 2.9   | 3.2   | 3.6   | 3.91  | 4     | 4.5   | 5     | 5.5   | 6.02  | 6.3   | 7.1   | 7.62  | 8.0   | 8.56  | 8.8   | 9.5   | 10.0  | 11.0  | 11.13 | 12.5  |
|-------|-------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|       | in    | 0.091               | 0.102 | 0.109 | 0.113 | 0.114 | 0.126 | 0.142 | 0.154 | 0.157 | 0.177 | 0.197 | 0.217 | 0.237 | 0.248 | 0.280 | 0.300 | 0.315 | 0.337 | 0.346 | 0.375 | 0.394 | 0.433 | 0.438 | 0.492 |
| OD    |       | Min -Max Length (m) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| mm    | in    |                     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 21.3  | 0.839 | 6-12                | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 26.7  | 1.051 | 6-12                | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 26.9  | 1.059 | 6-12                | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 28.0  | 1.102 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 30.0  | 1.181 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 31.8  | 1.252 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 33.4  | 1.315 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |       |
| 33.7  | 1.327 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |
| 38.0  | 1.496 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |       |
| 42.2  | 1.661 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |       |
| 42.4  | 1.669 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |       |
| 48.3  | 1.902 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |       |
| 51.0  | 2.008 |                     | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |       |
| 54.0  | 2.126 |                     |       |       | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |
| 57.0  | 2.244 |                     |       |       | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |       |
| 60.3  | 2.374 |                     |       |       | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |       |
| 63.5  | 2.500 |                     |       |       | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |       |
| 70.0  | 2.756 |                     |       |       | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |       |       |       |
| 73.0  | 2.874 |                     |       |       | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  |       |       |       |
| 76.1  | 2.996 |                     |       |       | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  |       |       |
| 82.5  | 3.248 |                     |       |       |       |       | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 6-12  |       |       |
| 88.9  | 3.500 |                     |       |       |       |       | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  | 6-12  |
| 95.0  | 3.740 |                     |       |       |       |       | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  |
| 101.6 | 4.000 |                     |       |       |       |       | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  |
| 108.0 | 4.252 |                     |       |       |       |       | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  |
| 114.3 | 4.500 |                     |       |       |       |       | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  | 7-13  |
| 121.0 | 4.760 |                     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 127.0 | 5.000 |                     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 134.0 | 5.276 |                     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

HP1 Category HP2 Category HP3 Category HP4 Category

Polygonal aspect at ID beeing within the tolerances (OD/WT<=8). Do not roll from steels with Rm> = 355 N / mm2 (E355, 20MnV6, 42CrMo4, etc)

This dimensional range can also be aplied quenching and tempering