

**Scope of the approval – Manufacturer of material in accordance with  
PER 2016/1105, Schedule 2, Part 4, Para. 31 (8)**

Annex to certificate no.  
**PER-0168-QS-M 3277395/2023/MUC-01 von / dated 2023-04-18**

|  |                    |                            |                |  |
|--|--------------------|----------------------------|----------------|--|
| Name: T.T.I. - TUBACEX TUBOS INOXIDABLES, S.A.U. | Country: <b>ES</b> | Date: rev. 0<br>2023-04-18 | Page<br>1 of 2 | <b>Competent Body of TUV SUD B A B T Unlimited</b> |
| Manufacturer: Street: Tres Cruces, 8             |                    |                            |                |  |
| City: ES-01400 Llodio (Alava)                    |                    |                            |                |  |

| No. | Material Designation<br>Material Grade  | Material Specification |         | Delivery Condition<br>Code | Description Product | Dimensions     |               |             |                 | Weight  |    | Requirements Technical Rules |    | Report no. C-8103654350-23<br>dated 2023-01-16  |
|-----|---|------------------------|---------|----------------------------|---------------------|----------------|---------------|-------------|-----------------|---------|----|------------------------------|----|---|
|     |   | Spec.                  | No.     |                            |                     | Thickness [mm] | Diameter [mm] | 1=t<br>2=kg | Technical Rules | Remarks |    |                              |    |   |
| 1   | 2   | 3a                     | 3b      | 4                          | 5                   | 6a             | 6b            | 7a          | 7b              | 8a      | 8b | 9a                           | 9b | 10  |
| 01  | Heat resistant steels<br>P195GH (1.0348), P235GH (1.0345)<br>P265GH (1.0425), 20MnNb6 (1.0471)<br>16Mo3 (1.5415), 8MoB5-4 (1.5450)<br>14MoV6-3 (1.7715), 10CrMo5-5 (1.7338),<br>13CrMo4-5 (1.7335), 10CrMo9-10 (1.7380),<br>11CrMo9-10 (1.7383), 25CrMo4 (1.7218)<br>20CrMoV13-5-5 (1.7779),<br>15NiCuMoNb5-6-4 (1.6368)<br>7CrWVMoNb9-6 (1.8201)<br>7CrMoVTiB10-10 (1.7378)<br>X11CrMo5 (1.7362), X11CrMo9-1 (1.7386)<br>X10CrMoVNb9-1 (1.4903)<br>X10CrWMoVNb9-2 (1.4901)<br>X11CrMoWVNb9-1-1 (1.4905)<br>X20CrMoV11-1 (1.4922) | EN                     | 10216-2 | b1                         | seamless tube       | 0,7            | 45            | 5           | 252             |         |    |                              |    | *) To fulfil essential safety requirements of PER Schedule 2, for each material acc. to non designated standards a Particular Material Appraisal (PMA) is mandatory.<br><br>b1 = NT respectively QT<br>b2 = QT or N<br>b3 = QT, NT  |
| 02  | Stainless steels<br>1.4307, 1.4306, 1.4311, 1.4301, 1.4541,<br>1.4550, 1.4335, 1.4404, 1.4401, 1.4466,<br>1.4571, 1.4580, 1.4429, 1.4436, 1.4435,<br>1.4439, 1.4563, 1.4539, 1.4547, 1.4529,<br>1.4558<br>1.4948, 1.4940, 1.4912, 1.4941, 1.4918,<br>1.4958, 1.4959, 1.4910, 1.4961, 1.4988,<br>1.4981, 1.4982  | EN                     | 10216-5 | AT<br>AT<br>AT<br>AT       | seamless tube       | 0,7            | 45            | 5           | 252             |         |    |                              |    |   |
| 03  | non-alloy and alloy steel with low temp.<br>P215NL (1.0451), P255QL (1.0452),<br>P265NL (1.0453), 26CrMo4-2 (1.7219)<br>11MnNi5-3 (1.6212), 13MnNi6-3 (1.6217),<br>12Ni14 (1.5637), X12Ni5 (1.5680)<br>X10Ni9 (1.5682)  | EN                     | 10216-4 | b2<br>b3                   | seamless tube       | 0,7            | 45            | 5           | 252             |         |    |                              |    | <b>For the use of materials acc. to column 2 till 4 the regulations and limits of the respective standards have to be observed. The specific material operating conditions have to be approved by the pressure equipment manufacturer or respectively by the Approved Body in charge.</b> |

**Explanation:** AT = solution annealed NT = normalized and tempered N = normalized S = stress relieved TM = thermo-mech. treated U = not annealed  
 QT = quenched and tempered CR = temperature controlled hot formed (controlled rolled) A = annealed AR = as rolled  
 a = material designation in column 10 b = condition in column 10 c = object in column 10  
 d = dimensions acc. to technical rules e = weight acc. to technical rules f = technical rules reference column 10

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| Name: T.T.I. - TUBACEX TUBOS INOXIDABLES, S.A.U. | Country: <b>ES</b> | Date: rev. 0<br>2023-04-18 | Page<br>2 of 2 | <b>Competent Body of TUV SUD BABT Unlimited</b> |
| Manufacturer: Street: Tres Cruces, 8             |                    |                            |                |   |
| City: ES-01400 Llodio (Alava)                    |                    |                            |                |   |

| No.  | Material Designation<br>Material Grade         | Material Specification |             | Delivery Condition<br>Code | Description Product | Dimensions     |      |               |       | Weight |       | Requirements Technical Rules |     | Report no. C-8103654350-23<br>dated 2023-01-16  |
|------|--|------------------------|-------------|----------------------------|---------------------|----------------|------|---------------|-------|--------|-------|------------------------------|-----|---|
|      |  | Spec.                  | No.         |                            |                     | Thickness [mm] |      | Diameter [mm] |       | 1=t    | value | Spec.                        | No. | Remarks   |
|      |  |                        |             |                            |                     | from           | to   | from          | to    | ↓      |       |                              |     |   |
| 1    | 2  | 3a                     | 3b          | 4                          | 5                   | 6a             | 6b   | 7a            | 7b    | 8a     | 8b    | 9a                           | 9b  | 10  |
| 04   | X2CrNiMoN22-5-3 (1.4462)                       | EN TÜVV                | 10216-5 418 | AT                         | seamless tube       | 0,7            | 24   | 5             | 273   |        |       |                              |     | *) To fulfil essential safety requirements of PER Schedule 2, for each material acc. to non designated standards a Particular Material Appraisal (PMA) is mandatory.<br><br>b = acc. to technical rule<br><br><b>For the use of materials acc. to column 2 till 4 the regulations and limits of the respective standards have to be observed. The specific material operating conditions have to be approved by the pressure equipment manufacturer or respectively by the Approved Body in charge.</b> |
| 05*) | X1NiCrMoCu25-20-5 (1.4539)                     | TÜVV                   | 421         | AT                         | seamless tube       | 0,7            | 10   | 5             | 168,3 |        |       |                              |     |   |
| 06*) | X8CrNi19-11 (1.4908)                           | TÜVV                   | 547         | AT                         | seamless tube       | 0,7            | 12,5 | 5             | 65,0  |        |       |                              |     |   |
| 07*) | X10CrNiCuNb18-9-3 (1.4907)                     | TÜVV                   | 550         | AT                         | seamless tube       | 0,7            | 12,5 | 5             | 65,0  |        |       |                              |     |   |
| 08*) | 1.4828, 1.4841, 1.4833, 1.4845, 1.4876, 1.4878 | SEW                    | 470         | AT                         | seamless tube       | 0,7            | 45   | 5             | 252   |        |       |                              |     |   |
| 09*) | Stainless steels                               | ASTM                   | A 213       | b                          | seamless tube       | 0,7            | 45   | 5             | 252   |        |       |                              |     |   |
|      |  | ASTM                   | A 312       |                            |                     |                |      |               |       |        |       |                              |     |   |
| 10*) | P9, P11, P12, P22, P91                         | ASTM                   | A 335       | b                          | seamless tube       | 0,7            | 45   | 5             | 252   |        |       |                              |     |   |
| 11*) | TP430  | ASTM                   | A 268       | b                          | seamless tube       | 0,7            | 45   | 5             | 252   |        |       |                              |     |   |
| 12*) | S31803, S32205, S32760, S32750                 | ASTM                   | A789        | b                          | seamless tube       | 0,7            | 45   | 5             | 252   |        |       |                              |     |   |
|      |  | ASTM                   | A790        |                            |                     |                |      |               |       |        |       |                              |     |   |
| 13*) | 800, 800H, 800HT                               | ASTM                   | B407        | b                          | seamless tube       | 0,7            | 45   | 5             | 252   |        |       |                              |     |   |
|      |  | ASTM                   | B163        |                            |                     |                |      |               |       |        |       |                              |     |   |
| 14*) | N08825   | ASTM                   | B423        | b                          | seamless tube       | 0,7            | 45   | 5             | 252   |        |       |                              |     |   |
| 15*) | X6CrNiNbN25-20 (1.4952)                        | TÜVV                   | 546         | AT                         | seamless tube       | 0,7            | 12,5 | 5             | 65    |        |       |                              |     |   |

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