

|                                                                                                                               |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|-------------------------------|-------------------------------------|--------------------------|-----------------------|--|--|
|                                              | PIPING MATERIALS                                                                                                                                                                                                                                                  |      |      |      |      |      |                               |                                     |                          |                       |  |  |
|                                                                                                                               | Material: API 5L X65Q PSL2                                                                                                                                                                                                                                        |      |      |      |      |      |                               | Rating: Class300 RF (smooth finish) |                          | CLASS<br><b>APL02</b> |  |  |
| Service: Condensate                                                                                                           |                                                                                                                                                                                                                                                                   |      |      |      |      |      | Corrosion allowance: 3.0 mm   |                                     | Date: 07/2026<br>Rev. A1 |                       |  |  |
|                                                                                                                               |                                                                                                                                                                                                                                                                   |      |      |      |      |      | Pressure / Temperature limits |                                     |                          |                       |  |  |
|                                                                                                                               |                                                                                                                                                                                                                                                                   |      |      |      |      |      | Pressure (barg)               |                                     | 48.7                     |                       |  |  |
|                                                                                                                               |                                                                                                                                                                                                                                                                   |      |      |      |      |      | Temperature (°C)              |                                     | 0 to 70                  |                       |  |  |
| Diameter                                                                                                                      | 2                                                                                                                                                                                                                                                                 | 3    | 4    | 6    | 8    | 10   | 12                            | 14                                  | 16                       |                       |  |  |
| Schedule/<br>Wall thickness<br>(4)                                                                                            | 3.91                                                                                                                                                                                                                                                              | 3.96 | 3.96 | 4.78 | 7.04 | 7.09 | 7.14                          | 7.14                                | 7.14                     |                       |  |  |
| Ends                                                                                                                          | Bevel End (BE)                                                                                                                                                                                                                                                    |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| Mat.Spec.                                                                                                                     | API 5L X65Q PSL2, SMLS or HFW with 100% Radiographed, ASME B36.10                                                                                                                                                                                                 |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| Fittings<br>(5) (6)                                                                                                           | ASTM A860 WPHY65 – 45° or 90° Elbow (R = 1.5 dia.), Concentric/Eccentric Reducer, Tee, Cap, BW to ASME B16.9 and MSS SP-75, thickness as per pipe schedule<br>ASTM A694 F65 – Weldolet, Sweepolet to MSS SP-97, BW to ASME B16.25, thickness as per pipe schedule |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| Flanges<br>(1) (2)                                                                                                            | ASTM A694 F65 – WN & Blind Flange, thickness as per pipe schedule, CL.300, RF, Smooth finish                                                                                                                                                                      |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| Ball valves<br>(10)                                                                                                           | ASTM A350 GR. LF2 Body, Full Welded, Trunnion mounted, Gearbox for diameters 8" and above, Flanged or BW with PUP                                                                                                                                                 |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| Gaskets (3)                                                                                                                   | Spiral wound, graphite filler, 4.5 mm thick 316L SS winding, 3.2 mm thick inner and external rings per ASME B16.20                                                                                                                                                |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| Bolting                                                                                                                       | Studs A193 B7, Hh nuts A194 2H, coating as per 10008-STD-6-COR-011                                                                                                                                                                                                |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| Miscellaneous                                                                                                                 | Spectacle blind, Fig.8 up to 12", Spade and Spacer for 14" and above, Carbon steel A516 Gr.70N, per ASME B16.48                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| NOTES                                                                                                                         |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (2) Flanges shall be as per ASME B16.5 for size up to 24" and as per ASME B16.47 Series A for size above 24".                 |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (3) Flange facing shall be "Smooth finish", maximum roughness 125 AARH - 250 AARH (3.2µm - 6.3µm).                            |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (4) As per PEGS-12059-PIP-029.                                                                                                |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (5) Pipe wall thickness calculation is based on ASME B31.8 Code.                                                              |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (6) Integrally Reinforced Forged Branch Outlet Fittings (Weldolet) as per MSS SP-97 and Sweepolet as per Manufacturer design. |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (7) All butt welding fittings shall be as per ASME B16.9 and MSS SP-75.                                                       |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (8) Impact test required as the design temperature is -29°C.                                                                  |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (9) Deleted                                                                                                                   |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (10) Deleted                                                                                                                  |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |
| (11) Firesafe and Anti-static device.                                                                                         |                                                                                                                                                                                                                                                                   |      |      |      |      |      |                               |                                     |                          |                       |  |  |

BRANCH REINFORCEMENT TABLE

## BRANCH REINFORCEMENT TABLE - CS, LTCS AND SS

| Header |     | Applicable pipe class: APL01, APL02, APL03 |                                                                                             |                                                                                                   |                                |                                                                            |    |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
|--------|-----|--------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------|----|----|----|------|------|------|------|-------|------|------|------|----|----|----|----|----|----|--------|--|--|
| 1/2    | T   | Notes:                                     |                                                                                             |                                                                                                   |                                |                                                                            |    |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 3/4    | RT  | T                                          | 1. W : O' let- Sockolet or Thredolet for branch diameter < 2", Weldolet for large diameter. |                                                                                                   |                                |                                                                            |    |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 1      | RT  | RT                                         | T                                                                                           | T : Equal Tee / RT : Reduced tee, socket weld end for diameter < 2", but weld for large diameter. |                                |                                                                            |    |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 1.1/2  | RT  | RT                                         | RT                                                                                          | T                                                                                                 | RT+R : Reduced tee and reducer |                                                                            |    |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 2      | W   | W                                          | W                                                                                           | W                                                                                                 | T                              | 2. For branch reinforcement special cases, 10008-STD-6-PIP-009 shall apply |    |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 3      | W   | W                                          | W                                                                                           | W                                                                                                 | RT                             | T                                                                          |    |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 4      | W   | W                                          | W                                                                                           | W                                                                                                 | RT                             | RT                                                                         | T  |    |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 6      | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | RT                                                                         | RT | T  |    |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 8      | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | RT | RT | T  |      |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 10     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | RT | RT | T    |      |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 12     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | RT | RT | RT   | T    |      |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 14     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | RT | RT   | RT   | T    |      |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 16     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | RT | RT   | RT   | RT   | T    |       |      |      |      |    |    |    |    |    |    |        |  |  |
| 18     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT   | RT   | RT   | RT   | T     |      |      |      |    |    |    |    |    |    |        |  |  |
| 20     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT   | RT   | RT   | RT   | RT    | T    |      |      |    |    |    |    |    |    |        |  |  |
| 24     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT   | RT   | RT   | RT    | RT   | T    |      |    |    |    |    |    |    |        |  |  |
| 26     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT+R | RT   | RT   | RT    | RT   | RT   | T    |    |    |    |    |    |    |        |  |  |
| 28     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT+R | RT   | RT   | RT    | RT   | RT   | RT   | T  |    |    |    |    |    |        |  |  |
| 30     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT+R | RT+R | RT   | RT    | RT   | RT   | RT   | RT | T  |    |    |    |    |        |  |  |
| 40     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT+R | RT+R | RT+R | RT(4) | RT   | RT   | RT   | RT | RT | T  |    |    |    |        |  |  |
| 48     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT+R | RT+R | RT+R | RT+R  | RT+R | RT   | RT   | RT | RT | RT | T  |    |    |        |  |  |
| 52     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT+R | RT+R | RT+R | RT+R  | RT+R | RT+R | RT   | RT | RT | RT | RT | T  |    |        |  |  |
| 56     | W   | W                                          | W                                                                                           | W                                                                                                 | W                              | W                                                                          | W  | W  | W  | RT+R | RT+R | RT+R | RT+R | RT+R  | RT+R | RT+R | RT+R | RT | RT | RT | RT | RT | T  |        |  |  |
|        | 1/2 | 3/4                                        | 1                                                                                           | 1.1/2                                                                                             | 2                              | 3                                                                          | 4  | 6  | 8  | 10   | 12   | 14   | 16   | 18    | 20   | 24   | 26   | 28 | 30 | 40 | 48 | 52 | 56 | Branch |  |  |