PIP PN06NM0B02
Piping Material Specification
6NM0B02 Class 600, Alloy 400 (UNS N04400),
Butt Weld, 0.000" C.A., Oxygen
PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

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PUBLISHING HISTORY

May 2000  Issued  February 2001  Technical Correction  April 2016  Complete Revision
June 2000  Revised  March 2006  Complete Revision

Not printed with State funds
For NPS 8 through 24 (Note 01)

PRESSURE – TEMPERATURE RATINGS

For NPS 1/2 through NPS 6 (Full flange ratings in accordance with ASME B16.5, Table II-2-3.4)

PRESSURE – TEMPERATURE RATINGS

NOMINAL CORROSION ALLOWANCE: None

STRESS RELIEF: None Required

EXAMINATION: In accordance with ASME B31.3

ITEM NOTES NPS SCH/RAT ENDS DESCRIPTION USER CODE

PIPE 01, 99
1/2 - 24 40S Alloy 400, SMLS, ASTM B165-N04400, annealed
3 - 6 40S Alloy 400, SMLS, ASTM B165-N04400, annealed
8 Calc Alloy 400, SMLS, ASTM B165-N04400, annealed
10 - 24 Calc Alloy 400, SMLS, ASTM B165-N04400, annealed, Cat. 2 (Ej=0.80)

NIPPLES

Branch 1/2 - 2 40S Alloy 400, SMLS, ASTM B165, annealed
Swage (CONC) 1/2 - 2 40S Alloy 400, ASTM B366-WPNC-S, MSS SP-95
Swage (ECC) 1/2 - 2 40S Alloy 400, ASTM B366-WPNC-S, MSS SP-95

FITTINGS 02

Reducer (CONC) 1/2 - 8 Weld Alloy 400, ASTM B366-WPNC-S, ASME B16.9
Reducer (ECC) 1/2 - 8 Weld Alloy 400, ASTM B366-WPNC-S, ASME B16.9
Welded 1/2 - 20 Weld Alloy 400, ASTM B564-N04400, annealed, MSS SP-97
90 LR ELL 1/2 - 8 Weld Alloy 400, ASTM B366-WPNC-S, ASME B16.9
45 LR ELL 1/2 - 8 Weld Alloy 400, ASTM B366-WPNC-S, ASME B16.9
45 LR ELL 1/2 - 8 Weld Alloy 400, ASTM B366-WPNC-W, ASME B16.9
Tee 1/2 - 8 Weld Alloy 400, ASTM B366-WPNC-S, ASME B16.9
Tee 1/2 - 8 Weld Alloy 400, ASTM B366-WPNC-W, ASME B16.9
Tee (RED) 10 - 24 Weld Alloy 400, ASTM B366-WPNC-W, ASME B16.9
Cap 1/2 - 24 Weld Alloy 400, ASTM B366-WPNC-S, ASME B16.9
Plug 53 1/2 - 2 PE Alloy 400, ASTM B164-UNS N04400, round head

VALVES 99

Gate 1/2 - 24 Class 600 RF Alloy 400 body trim 11 GA06NM501
Globe 1/2 - 12 Class 600 RF Alloy 400 body trim 11 GL06NM501
Swing Check 62 1/2 - 24 Class 600 RF Alloy 400 body trim 11 CS06NM501
Lug Dual PLT 26, 63 3 - 10 Class 600 RF Alloy 400 body w/ Alloy 400 disc, HF ST CD06NM703

FLANGES 02

Blind 1/2 - 3/4 Class 600 RF Alloy 400, ASTM B564-N04400, annealed, ASME B16.5
Blind 1 - 24 Class 600 RF CS, ASTM A105 w/ 1/8” Alloy 400 plate welded, ASTM B175-N04400, annealed, serrated to 125-250 Ra finish, ASME B16.5
Weld Neck 1/2 - 24 Class 600 RF Alloy 400, ASTM B564-N04400, annealed, ASME B16.5
Pair WN Orifice 2 - 24 Class 600 RF Alloy 400, ASTM B564-N04400, annealed, ASME B16.36, SW taps

GASKETS 1/2 - 24 Class 600 Spiral wound Alloy 400 winding, w/ flexible graphite filler, w/Alloy 400 inner ring and CS outer ring, ASME B16.20

BOLTING

Stud Bolts ASTM A193, Gr B7 stud, w/ 2 heavy hex nuts ASTM A194, Gr 2H
90° BRANCH CONNECTION

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<tr>
<th>BRANCH SIZE</th>
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<td>20 E</td>
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E Reducing Tee
T Tee
W Weldolet

NOTES:
01 If a pipe schedule is shown under "SCH/RAT," it shall be adequate for the full flange rating. If "CALC" is shown, the pressure limit may be lower than full flange rating.
02 All butt-welded component thicknesses shall match the pipe thickness.
26 To be used only if indicated on the P&ID.
58 For oxygen pressures greater than 1000 psig (6895 kPag), oxygen supplier shall be consulted.
62 These check valves shall be installed in a horizontal position with cover up or in a vertical position with upward flow.
63 These check valves shall be installed in a horizontal position with hinge pin vertical or in a vertical position with upward flow.
99 The use of copper or nickel alloy materials should be considered in piping systems in which high-velocity and/or high-turbulent flows exist downstream of pressure let-down valves. Guidelines contained in CGA G-4.4[ALJ1] shall be followed for the selection of materials in such areas.
102 All material shall be cleaned in accordance with Compressed Gas Association Pamphlet G4.1, Compressed Gas Association Pamphlet G4.4, and ASTM G-93.

REFERENCES:
Process Industry Practices (PIP)

PIP PNF0200 – Vents, Drains, and Instrument Connection Details
PIP PNSMV053 – Nickel and Nickel Alloy Gate Valve Descriptions
PIP PNSMV054 – Nickel and Nickel Alloy Globe Valve Descriptions
PIP PNSMV055 – Nickel and Nickel Alloy Check Valve Descriptions