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Hygienic Process

**PIP PHCM0001
Hygienic Process Piping Line Class
Designator System**

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1. Scope

This Practice describes the arrangement of the line class designators for PIP Hygienic Process Piping and the requirements for each field within a designation. Designation requirements are provided for both PIP-developed and owner-developed Hygienic Process Piping line classes. A one-page summary of the PIP Hygienic Process Piping Line Class Designator System specified in this Practice is provided in Appendix D.

2. Requirements

2.1 General

- 2.1.1 The Hygienic Process Piping line class designator system shall consist of nine alternating alphanumeric fields containing one or two characters each (maximum of ten characters). The first six fields are mandatory while the seventh is optional.
- 2.1.2 Each field shall describe various features of a Hygienic Process line class.

2.2 Field Definitions

2.2.1 First Field (1 numeric character) – ID Surface Finish (per ASME BPE Table SF-2.4-1)

The first field shall define the ID surface finish based on ASME BPE Tables SF-2.4-1 and SF-3.4-1. The ID Surface Finish code shall consist of one numeric or alpha character in accordance with the following list:

- 0 = SF0; No finish requirement
- 1 = SF1; Ra 20 μin (0.51 μm) Mechanical Polish
- 2 = SF2; Ra 25 μin (0.64 μm) Mechanical Polish
- 3 = SF3; Ra 30 μin (0.76 μm) Mechanical Polish
- 4 = SF4; Ra 15 μin (0.38 μm) Mechanical Polish and Electro-polish
- 5 = SF5; Ra 20 μin (0.51 μm) Mechanical Polish and Electro-polish
- 6 = SF6; Ra 25 μin (0.64 μm) Mechanical Polish and Electro-polish
- V = SFP0; No finish requirement (Polymeric Materials)
- W = SFP1; Ra 15 μin (0.38 μm) (Polymeric Materials)
- X = SFP2; Ra 25 μin (0.64 μm) (Polymeric Materials)
- N/A = SFP3; Not used – Not applicable to Hygienic function / Not commercially available
- Y = SPF4; Ra 40 μin (1.01 μm) (Polymeric Materials)
- Z = SPF5; Ra 50 μin (1.27 μm) (Polymeric Materials)
- N/A = SPF6; Not used – Not applicable to Hygienic function / Not commercially available

2.2.2 Second Field (1 or 2 numeric characters) – Pressure Rating

2.2.2.1 The second field shall define the pressure rating.

2.2.2.2 The pressure rating field shall consist of one or two numeric characters in accordance with Table 1.

Table 1 - Pressure Rating

Symbol	Nominal Pressure Rating or Class
00	Not Applicable / Non-standard Class ASME B16.5 or B16.47 Flange Class
01	150
03	300
04	400
06	600
09	900
15	1500
25	2500
	Hygienic Clamped Joints
14	Refer to ASME BPE Table DT-2-1 for max working pressure
	API & MSS
08	800
50	5000
70	10000
	ASME 16.1 Cast Iron Flange Class
12	125
13	250
	EN / ISO Pressure Class
P0	PN 10
P1	PN 16
P2	PN 25
P3	PN 40
P4	PN 63
P5	PN 100
P6	PN 160
P7	PN 250
P8	PN 320
P9	PN 400
	Misc. Pressure Class Rating (e.g. CWP, SWP, WOG, etc.)
17	175
02	200
10	1,000
16	1,690

Symbol	Nominal Pressure Rating or Class
20	2,000
26	2,680
30	3,000
40	4,000
45	4,500
60	6,000
68	8,000
80 – 99	Reserved for Owner-Specific Rating Designations

2.2.3 Third Field (1 or 2 alpha characters) – Hygienic Process Piping Material

2.2.3.1 The third field shall define the nominal Hygienic Process Piping material.

2.2.3.2 The nominal Hygienic Process Piping material field shall consist of two alphabetic characters in accordance with Table 2.

2.2.4 Fourth Field (1 numeric character) – Corrosion Allowance

2.2.4.1 The fourth field shall define the corrosion/erosion allowance.

2.2.4.2 The corrosion/erosion allowance field shall consist of one numeric character in accordance with Table 3.

Note: In Hygienic Process Piping, this value is typically 0.