

**FERROUS P-NUMBERS**

To reduce the number of welding and brazing procedure qualifications, required base metals have been assigned P-Numbers by the ASME BPVC. Ferrous metals which have specified impact test requirements have been assigned Group Numbers within P-Numbers. These assignments have been based on comparable base metal characteristics, such as: Composition, Weldability, Braze-ability, and Mechanical Properties. Indiscriminant substitution of materials in a set of P-Numbers or Group Numbers may lead to problems or potentially failures. Engineering assessment is necessary prior to a change in materials.

When a base metal with a UNS number Designation is assigned a P-Number, then a base metal listed in a different ASME material specification with the same UNS number shall be considered that P-Number.

The table below is a guide and is for instructive purposes only. Anyone specifying materials or requirements should refer directly to the ASME Boiler and Pressure Vessel Code to specify materials, P-Numbers, procedures, or other requirements and not rely on the table below.

**The table below is only an approximate summary of ASME data.**

P-Numbers	Base Metal (Typical or Example)
1	Carbon Manganese Steels (four Group Numbers)
2	Not Used
3	Half Molybdenum or half Chromium, half Molybdenum (three Group Numbers)
4	One and a quarter Chromium, half Molybdenum (two Group Numbers)
5A	Two and a quarter Chromium, one Molybdenum
5B	Five Chromium, half Molybdenum or nine Chromium, one Molybdenum (two Group Numbers)
5C	Chromium, Molybdenum, Vanadium (five Group Numbers)
6	Martensitic Stainless Steels (Grade 410, 415, 429) (six Group Numbers)
7	Ferritic Stainless Steels (Grade 409, 430)
8	Austenitic Stainless Steels
	Group 1 - Grades 304, 316, 317, 347
	Group 2 - Grades 309, 310
	Group 3 - High Manganese Grades
9A, B, C	Group 4 - High Molybdenum Grades
	Two to four Nickel Steels
10A, B, C, F	Various low alloy steels
10H	Duplex and Super Duplex Stainless Steel (Grades 31803, 32750)
10I	High Chromium Stainless Steel
10J	High Chromium, Molybdenum Stainless Steel
10K	High Chromium, Molybdenum, Nickel Stainless Steel
11A	Various high strength low alloy steels (six Group Numbers)
11B	Various high strength low alloy steels (ten Group Numbers)
12 to 20	Not Used
21	High Aluminum content (1000 and 3000 series)
22	Aluminum (5000 series - 5052, 5454)
23	Aluminum (6000 series - 6061, 6063)
24	Not Used
25	Aluminum (5000 series - 5083, 5086, 5456)
26 to 30	Not used
31	High Copper content
32	Brass
33	Copper Silicone
34	Copper Nickel
35	Copper Aluminum
36 to 40	Not Used
41	High Nickel content
42	Nickel, Copper - (Monel 500)
43	Nickel, Chromium, Iron - (Inconel)
44	Nickel, Molybdenum - (Hastelloy B2, C22, C276, X)
45	Nickel, Chromium
46	Nickel, Chromium, Silicone
47	Nickel, Chromium, Tungsten
47 to 50	Not Used
51, 52, 53	Titanium Alloys
61, 62	Zirconium Alloys