API 600 Trim Number Chart

Standard Trim Configurations

API Trim Number	Nominal Trim	Trim code	Stem & other trim parts	Disc/Wedge	Seat surface	Trim Material Grade	Service
1	410	F6	410 (13Cr) (200-275 HBN)	F6 (13Cr) (200 HBN)	410 (13Cr) (250 HBN min)	13Cr-0.75Ni-1Mn	For oil and oil vapors and general services with heat treated seats and wedges. General very low erosive or non-corrosive service between -100ºC and 320ºC. This stainless steel material lends itself readily to hardening by heat treatment and is excellent for contacting parts such as stems, gates, and discs. Steam, gas & general service to 370ºC. Oil & Oil vapor 480ºC.
2	304	304	304	304 (18Cr-8Ni)	304 (18Cr-8Ni)	19Cr-9.5Ni-2Mn-0.08C	For moderate pressure in corrosive, low erosive service between -265°C and 450ºC.
3	310	310	(25Cr-20Ni)	310 (25Cr-20Ni)	310 (25Cr-20Ni)	25Cr-20.5Ni-2Mn	For moderate pressure in corrosive or non corrosive service between -265°C and 450ºC.
4	410 - Hard	F6H	410 (13Cr) (200-275 HBN)	F6 (13Cr) (200-275 HBN)	F6 (13Cr) (275 HBN min)	13Cr-0.75Ni-1Mn	Seats 275 BHN min. As trim 1 but for medium pressure and more corrosive service.
5	410 - Full Hard faced	F6HF	410 (13Cr) (200-275 HBN)	F6+St Gr6 (CoCr Alloy) (350 HBN min)	410+St Gr6 (CoCr Alloy) (350 HBN min)	13Cr-0.5Ni-1Mn/Co-Cr-A	High pressure slightly erosive and corrosive service between -265ºC and 650ºC and higher pressure. Premium trim service to 650ºC. Excellent for high pressure water and steam service.
5a	410 - Full Hard faced	F6HF	410 (13Cr) (200-275 HBN)	F6+Hardf. NiCr Alloy (350 HBN min)	410+Hardf. NiCr Alloy (350 HBN min)	13Cr-0.5Ni-1Mn/Co-Cr-A	As trim 5 where Co is not allowed.
6	410 and Ni-Cu	F6HFS	410 (13Cr) (200-275 HBN)	Monel 400® (NiCu Alloy) (250 HBN min)	Monel 400® (NiCu Alloy) (175 HBN min)	13Cr-0.5Ni-1Mn/Ni-Cu	As trim 1 and more corrosive service.
7	410 - Very hard	F6HF+	410 (13Cr) (200-275 HBN)	F6 (13Cr) (250 HBN min)	F6 (13Cr) (750 HB)	13Cr-0.5Ni-1M0/13Cr-0.5Ni-1Mo	Seats 750 BHN min. As trim 1 but for higher pressure and more corrosive/erosive service.
8	410 - Hard faced	F6HFS	410 (13Cr) (200-275 HBN)	410 (13Cr) (250 HBN min)	410+St Gr6 (CoCr Alloy) (350 HBN min)	13Cr-0.75Ni-1Mn/1/2Co-Cr-A	Universal trim for general service requiring long service life up to 593°C. As trim 5 for moderate pressure and more corrosive service. Steam, gas & general service to 540ºC. Standard trim for gate valves.
8a	410 - Hard faced	F6HFS	410 (13Cr) (200-275 HBN)	F6 (13Cr) (250 HBN min)	410+Hardf. NiCr Alloy (350 HBN min)	13Cr-0.75Ni-1Mn/1/2Co-Cr-A	As trim 5a for moderate pressure and more corrosive service
9	Monel	Monel	Monel® (NiCu Alloy)	Monel 400® (NiCu Alloy)	Monel 400® (NiCu Alloy)	70Ni-30Cu	For corrosive service to 450ºC such as acids, alkalies, salt solutions, etc. Very corrosive fluids. Erosive-corrosive service between -240ºC and 480ºC. Resistant to sea water, acids, alkalies. Has excellent corrosion resistance in chlorine and alkylation service.
10	316	316	316 (18Cr-Ni-Mo)	316 (18Cr-Ni-Mo)	316 (18Cr-Ni-Mo)	18Cr-12Ni-2.5Mo-2Mn	For superior resistance to corrosion for liquids and gases which are corrosive to 410 stainless steel up to 455ºC. As trim 2 but a higher level of corrosive service. Provides excellent resistance to corrosive media at high temperatures and toughness for service at low temperatures. Low temperature service standard for 316SS valves.
11	Monel - Hard faced	MonelHFS	Monel® (NiCu Alloy)	Monel 400® (NiCu Alloy)	Monel 400®+St Gr6 (350HBN min)	70Ni-30Cu/1/2Co-Cr-A	As trim 9 but for medium pressure and more corrosive service.
11a	Monel - Hard faced	MonelHFS	Monel® (NiCu Alloy)	Monel 400® (NiCu Alloy)	Monel 400®+HF NiCr Alloy (350 HBN min)	70Ni-30Cu/1/2Co-Cr-A	As trim 9 but for medium pressure and more corrosive service.
12	316 - Hard faced	316HFS	316 (Cr-Ni-Mo)	316 (18Cr-8Ni-Mo)	316+St Gr6 (350 HBN min)	18Cr-12Ni-2.5Mo-2Mn1/2Co-Cr-A	As trim 10 but for medium pressure and more corrosive service.
12a	316 - Hard faced	316HFS	316 (Cr-Ni-Mo)	316 (18Cr-8Ni-Mo)	316 Hardf. NiCr Alloy (350 HBN min)	18Cr-12Ni-2.5Mo-2Mn1/2Co-Cr-A	As trim 10 but for medium pressure and more corrosive service.
13	Alloy 20	Alloy 20	Alloy 20 (19Cr-29Ni)	Alloy 20 (19Cr-29Ni)	Alloy 20 (19Cr-29Ni)	29Ni-19Cr-2.5Mo-0.07C	Very corrosive service. For moderate pressure between -45ºC and 320ºC.
14	Alloy 20 - Hard faced	Alloy 20HFS	Alloy 20 (19Cr-29Ni)	Alloy 20 (19Cr-29Ni)	Alloy 20 St Gr6 (350 HBN min)	29Ni-19Cr-2.5Mo-0.07C/1/2Co-Cr-A	As trim 13 but for medium pressure and more corrosive service.
14a	Alloy 20 - Hard faced	Alloy 20HFS	Alloy 20 (19Cr-29Ni)	Alloy 20 (19Cr-29Ni)	Alloy 20 Hardf. NiCr Alloy (350 HBN min)	29Ni-19Cr-2.5Mo-0.07C/1/2Co-Cr-A	As trim 13 but for medium pressure and more corrosive service.
15	304 - Full Hard faced	304-HF	304 (18Cr-8Ni-Mo)	304St Gr6	304+St Gr6 (350 HBN min)	19Cr-9.5Ni-2Mn-0.08C/1/2Co-Cr-A	As trim 2 but more erosive service & higher pressure.
16	316 - Full Hard faced	316-HF	316 HF (18Cr-8Ni-Mo)	316+St Gr6 (320 HBN min)	316+St Gr6 (350 HBN min)	18Cr-12Ni-2.5Mo-2Mn/Co-Cr-Mo	As trim 10 but more erosive service & higher pressure.
17	347 - Full Hard faced	347-HF	347 HF (18Cr-10Ni-Cb)	347+St Gr6 (350 HBN min)	347+St Gr6 (350 HBN min)	18Cr-10Ni-Cb/Co-Cr-A	As trim 13 but more corrosive service & higher pressure. Combines good corrosion resistance with high temperature resistance up to 800ºC.
18	Alloy 20 - Full Hard faced	Alloy 20 HF	Alloy 20 (19Cr-29Ni)	Alloy 20+St Gr6 (350 HBN min)	Alloy 20+St Gr6 (350 HBN min)	19Cr-29Ni/Co-Cr-A	As trim 13 but more corrosive service & higher pressure. Water, gas or low pressure steam to 230°C.
Special	Bronze	Bronze	410 (CR13)	Bronze	Bronze		Water, oil, gas, or low pressure steam to 232ºC.
Special	Alloy 625	Alloy 625	Alloy 625	Alloy 625	Alloy 625		
NACE	Specially treated 316 or 410 trim combined optionally with B7M bolts and 2HM nuts to meet NACE MR-01-75 requirements.						
Full Stellite	Full Hardfaced trim, suitable for abrasive & severe services up to 1200ºF (650°C).						