



NACE MR0175 NACE RESIST SSC VALVES

NACE Valves:

For servicing four gases or other Hydrogen Sulfide bearing hydrocarbon fluids, NACE valves made of component materials specially heat-treated and hardness-controlled in conformity with NACE MR 0175 standard. Typical NACE material configuration is shown below for cast steel valve. A note should be taken on the fact that NACE hardness requirement conflicts with the one of valve seating surface specified by API600, Table 13. NACE steel valves are available only at user option.

The demands about Resist SSC (Sulfur Stress Crack) material That be used for the equipment that the working medium include H₂S Carbon-Hydride compound

No	Part Name	ASTM Material	NACE Hardness	API 600 Hardness
1	Body	A216-WCB	≤HRC 22 (237 HB)	-
2	Bonnet/York	A216-WCB		-
3	Seat Ring	A105 with 13CR overlay		≥250HB*
4	Wedge/Disc	A216-WCB/A105 with 13CR overlay		≥250HB*
5	Stem	AISI Type 410/A182-F6aA	≤HRC 22 (237 HB)	≥250HB*
6	Backseat Bushing			≥250HB*
7	Lantern Ring			-
8	Gland			-
9	Bonnet Gasket	316SS+Graphite	-	-
		316SS(RTJ)	≤HRC 22	-
10	Bonnet Bolt	A193-B7	-	-
		A193-B7M	≤HRC22	-
		A194-2H	-	-
11	Bonnet Nut	A194-2H	≤HRC22	-
		A194-2HM	≤HRC22	-

*Minimum Hardness differential of 50 HB between the seats.

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- All NACE valves meet API standard, except as modified to meet a HRC 22 maximum hardness requirements of NACE specification.
- Standard body and bonnet ASTM A216-WCB have the maximum carbon equivalent 0.43%.
- Seat rings are screwed in to eliminate potential hardness problem with welds and HAZ (Heat Affected Zones).
- Bonnet gasket for ANSI Class 150Lb gate valve only, bonnet gasket in flexible graphite with stainless steel 316 sheet reinforcement; For ANSI Class 300Lb gate valve and ANSI Class 150Lb and 300Lb globe and check valve, bonnet gasket in stainless steel 316 spiral wound with graphite filler.
- Standard trim is hardness controlled 13%Cr steel with Hard faced seats (API trim No.8).
- Standard bonnet bolting is Class II nut and bolt.
- All NACE valves are further identified by additional words "NACE MR 0175" shown on the nameplate for traceability and certification of conformance.

Typical NACE material specifications shown in above table and other material application are available at customer's option.