

NACE MR0175/MR0103 Compliant

Over recent years the demand for valves resistant to sulfide stress cracking in facilities handling H₂S bearing hydrocarbons has increased dramatically. Varying concentrations of H₂S, pressure, temperature and the medium itself, whether it be fluid, gas or multi-phase, plus other factors all have a bearing on the appropriate metallic material selection.

DSI® offers three basic valves which have been proven reliable and which fully comply with the NACE

MR0175/MR0103 specification. The typical material configurations of the NACE compliant DSI® Carbon and Low Temperature Carbon Steel Gate Valves are shown below.

NACE designated valve pressure containing parts are in accordance with the prequalified materials identified in NACE MR0175/MR0103. It is the user's responsibility to ensure that all material will be satisfactory in the intended environment.

NACE Compliant Material Specifications for Gate Valves

Valve Parts	UF-N Carbon Steel	LUF-N Carbon Steel	LUF-N-LCC Low Temp CS	Notes
Body, Bonnet	ASTM A216 WCB	ASTM A216 WCB	ASTM A352 LCC	Maximum Hardness 22Rc/235HB
Disc + Disc Faces	ASTM A216 WCB/HF**	ASTM A216 WCB/316	ASTM A352 LCC/316	Heat affected zone and base material hardnesses are controlled to 22Rc/235HB maximum
Stem	ASTM A182 F6A	ASTM A182 F316	ASTM A182 F316	From forging, no welding, max. hardness 22Rc/235HB
Backseat Gland	ASTM A276 410	ASTM A276 316	ASTM A276 316	From solid bar, no welding, max. hardness 22Rc/235HB
Seat + Seat Faces	ASTM A105/HF	ASTM A105/HF	ASTM A352 LF2/HF	Base material and heat affected zone hardnesses are controlled to 22Rc/235HB max.
Bonnet Bolts	ASTM A193 B7M	ASTM A193 B7M	ASTM A320 L7M	Materials are suitable for direct exposure to H ₂ S
Bonnet Nuts	ASTM A194 2HM	ASTM A194 2HM	ASTM A194 7M	Same as above

Note: Other trims available in NACE. • All information is subject to change without notice.

Welding

Welding and weld repair operations are conducted in accordance with applicable ASTM material specifications and NACE MR0175/MR0103 using procedures and personnel qualified to ASME Section IX.

Material Test Reports

Material test reports for DSI® Cast Steel valves are available upon request. Material test reports meet the requirements of EN10204 -1991 3.1b/EN100204 -2004 3.1

General Design Specifications • DSI® Cast Steel Valves are manufactured in strict accordance with the following standards:

American Standard	British Standard	Item Description
API 600	BS1414 (Gate Valve) BS1873 (Globe Valve)	Shell wall thickness and general valve design specifications
API 594	BS1868 (Check Valve)	
ANSI B16.34	BS1560	Pressure temperature ratings
ANSI B16.10	BS2080	Face-to-face dimensions, End-to-end dimensions
ANSI B16.5*	BS1560	End flange dimensions, Gasket contact facing
ANSI B16.25	BS1414 (Gate Valve) BS1873 (Globe Valve) BS1868 (Check Valve)	Welding end dimensions
ASME B31.1 ASME B31.3		ASME Code for pressure piping, B31.1 power piping ASME Code for pressure piping, B31.3 process piping

*Valves 26" and larger according to ANSI B16.47 Series A (MSS SP-44) and Series B (API 605). ** HF denotes Stellite® 6 or equivalent. Stellite® 6 is a registered tradename of Deloro Stellite. • Note: All information is subject to change without notice.