

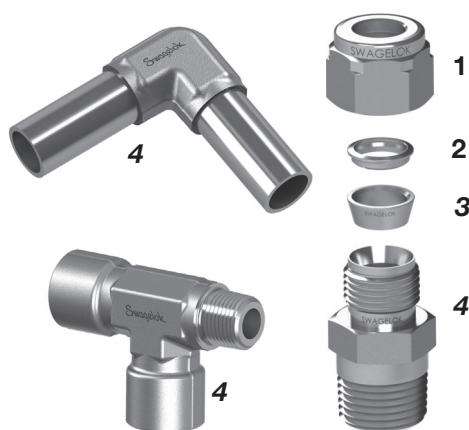
6-Moly Alloy Tube, Pipe, and Weld Fittings

NACE MR0175/ISO 15156 Compliant

Introduction

For sour gas applications, gaugeable 6-moly alloy tube, pipe, and weld fittings are available. Components are made from either alloy 6HN (UNS N08367) or 254 (UNS S31254). NACE MR0175 / ISO 15156 contains tables for highly alloyed stainless steels that describe material requirements and limits for operating conditions. Table A.8, which describes the use of these alloys in any equipment or component, specifies the use of solution-annealed material and states maximum use temperatures and hydrogen sulfide partial pressures. Table A.11, which describes the use of these alloys as compression fittings, allows for these fittings to be produced from either cold-drawn or solution-annealed material, and does not provide limits for maximum use temperature and hydrogen sulfide partial pressure.

Materials of Construction, 6Mo Fittings for Sour Gas Applications Requiring Compliance with Table A.8 or A.11



Component	Material	ASTM Specification	Marking
1 Nut	Alloy 254 (UNS S31254) or Alloy 6HN (UNS N08367)	A479 ^①	254 or 6HN on face
2 Back ferrule	6HN (UNS N08367)	A479 ^②	6HN on outer rim
3 Front ferrule	Alloy 254 (UNS S31254) or Alloy 6HN (UNS N08367)	A479 ^①	254 or 6HN on outer rim
4 Body	Alloy 254 (UNS S31254) or Alloy 6HN (UNS N08367)	Straight body—A479 ^① Shaped body—A182	Tube and pipe fittings— 254 or 6HN on neck Weld fitting— 254 or 6HN on body Pipe and weld fittings— SG on body

Wetted components listed in *italics*

① A479 (except for elongation, area of reduction, and hardness when cold-drawn bar)

② A479 (except for elongation and hardness)

Ordering Information

Fittings (straight, elbow, cross, or tee) containing at least one Swagelok tube fitting end connection comply with NACE MR0175/ISO 15156 Table A.11 and do not require a designator to be added to the base ordering number.

Fittings with no Swagelok tube fitting end connections comply with NACE MR0175/ISO 15156 Table A.8 and require **-SG2** be added to the base ordering number.

Caps, plugs, and tube adapters are considered tube fitting components which comply with NACE MR0175/ISO 15156 Table A.11 and do not require a designator be added to the base ordering number.

Refer to the applicable product catalog for base ordering numbers:

- *Gaugeable Tube Fittings and Adapters* catalog, MS-01-140
- *Pipe Fittings* catalog, MS-01-147
- *Weld Fittings, Ultrahigh-Purity, Specially Cleaned, and Industrial* catalog, MS-01-149

NACE MR0175/ISO 15156 Material Table Reference

The NACE MR0175/ISO 15156 standard contains tables that describe material requirements and environmental limits for various materials for use in those applications. The NACE MR0175/ISO 15156 tables that define requirements are for 6Mo:

- Table A.8 specifies the environmental and material limits for highly alloyed austenitic stainless steels used for any equipment or components in any type of sour gas installation.
- Table A.11 defines the environmental and material limits for highly alloyed austenitic stainless steels used as instrument tubing, control-line tubing, compression fittings, and surface and downhole screen devices.

Table 1 Environmental Limits

Alloy	Applicable NACE Table	Condition of Alloy	Application	Maximum Temperature, °C (°F)	Maximum H ₂ S Partial Pressure ^① , kPa (psi)
6Mo (254, 6HN)	A.11	Solution-annealed and cold-drawn	Instrument tubing, control-line tubing, and compression fittings	No restrictions; Refer to NACE MR0175/ISO 15156 for cautionary remarks.	
	A.8	Solution-annealed	Any equipment or component	60 (140)	100 (15)

① H₂S partial pressure is the pressure contribution of hydrogen sulfide gas to the total pressure. Example, for partial pressure: Air consists of 21% oxygen; if the total air pressure is 1.00 atm, then the partial pressure of oxygen is 0.21 atm.

Consult ANSI/NACE MR0175/ISO 15156 for detailed information on the environmental limits of alloys.

Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange parts with those of other manufacturers.

Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.

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