





**SOUTHWEST GAS CORPORATION**  
**ENGINEERING STAFF**  
**MATERIAL SPECIFICATION**

<b>Section No.:</b>	MS I-5
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<b>Issue Date:</b>	03/01/16
<b>Superseded Date:</b>	02/19/15

**Prepared By:** Engineering Staff   
**Approved By:** Jerome T. Schmitz 

**COUPLINGS**

1/2-Inch Steel Tubing Adapter

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**1. SCOPE**

This specification covers steel compression couplings for 1/2-inch steel tubing (5/8-inch OD) at one end and for 1/2-inch, .090-inch w.t. polyethylene tubing at the other end.

The adapter fitting covered by this specification may be installed as a single component without a pressure test.

**2. APPLICABLE DOCUMENTS**

- 2.1 ASTM International (ASTM) A-53M (Oct. 2010), "Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless."
- 2.2 ASTM International (ASTM) A-197, "Specification for Cupola Malleable Iron."
- 2.3 ASTM International (ASTM) A-513, "Specification for Electric-Resistance Welded Carbon and Alloy Steel Mechanical Tubing."
- 2.4 ASTM International (ASTM) D-2513-90a, "Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings."
- 2.5 United States Department of Transportation (DOT), Code of Federal Regulations (CFR), Title 49, Part 192, "Transportation of Natural and Other Gas by Pipeline; Minimum Safety Standards."

**NOTE:** Unless otherwise specified, the editions of the above documents incorporated by DOT 49 CFR 192 are applicable. Documents not incorporated by DOT 49 CFR 192 will be the most recent edition.

**3. TERMINOLOGY**



**3.1 General**

- 3.1.1 "Southwest Gas," "Southwest" or "SWG" wherever used in this specification and other related documents will refer exclusively to Southwest Gas Corporation.
- 3.1.2 The terms "approved," "as approved," "satisfactory," "as directed," "or equal" or other similar terms wherever used in this specification and other related documents will mean "as determined by Southwest Gas," unless specifically stated otherwise.



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**3. TERMINOLOGY** (Cont'd)

3.1.3 "Product Information Package" or "PIP" wherever used in this specification and other related documents will mean the required technical product information that a manufacturer must submit to SWG to determine if the product is suitable for use by SWG, unless specifically stated otherwise.

**4. MATERIALS AND MANUFACTURING**

- 4.1 Each steel coupling to connect 1/2-inch steel tubing to 1/2-inch polyethylene (PE) tubing shall include a lock-type seal ring, a conductor ring, a compression nut on the outlet for the steel tubing, a seal ring, integral stiffener and a compression nut on the outlet for the PE tubing.
- 4.2 The body of the coupling shall be made of steel conforming to the requirements of ASTM A-53. The chamfered faces of the body shall be free of ridges, burrs and tool tears.
- 4.3 The compression nuts shall be made of a malleable iron conforming to the requirements of ASTM A-197.
- 4.4 The seal rings shall be made of an elastomer. The seal ring for the steel tubing shall incorporate a steel lock ring and a steel conductive ring.
- 4.5 The PE end of the coupling shall incorporate an integral stiffener made of 1010/1020 steel crew tubing that meets the requirements of ASTM A-513.



**5. PERFORMANCE REQUIREMENTS**

- 5.1 The fittings will be designed for use in gas distribution systems in all class locations, at pressures up to 100 psig. All product features must be acceptable to SWG.
- 5.2 The fittings will be designed so that oils and other agents and debris commonly found in natural gas pipelines will not adversely affect the product serviceability.
- 5.3 Current detailed installation instructions must be provided to Southwest Gas for each fitting prior to final material approval.



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**6. DIMENSIONS AND TOLERANCES**

Dimensions shall be in accordance with the drawing in Appendix A of this specification and as specified in the scope of this material specification. Tolerances for the PE tubing must meet ASTM D2513.

**7. INSPECTION**

- 7.1 Successful review of the Product Information Package (PIP), as well as any future reference by SWG to the Seller's part number or internal code number in any future contract or purchase, will mean only that no conflict with the specification was found and will not relieve the Seller from meeting all the requirements of this specification.
- 7.2 SWG retains the option to inspect the manufacture and testing of any and all materials, products or systems referenced in this specification that are sold to SWG.
- 7.2 SWG will make appropriate inspections and test of any and all materials, products or systems supplied to this specification. SWG will have the right, at their option, to reject any material which fails to conform to this specification. Any such rejections may take place at the manufacturer's facility; the supplier's warehouse or any subsequent delivery location before or after SWG assumes possession. Notice of the rejection will be made promptly to the supplier by SWG. The defective product will be replaced or returned for credit at the manufacturer's expense.
- 7.3 Any changes in the manufacturing of previously approved materials, products or systems described in this material specification for sale to SWG, must be approved by SWG's Engineering Staff. **Failure to obtain Southwest's approval may be cause for rejection and disqualification as an approved supplier.**

**8. CERTIFICATION**



The manufacturer's or supplier's certification will be furnished to Southwest. This certification will state that samples representing each lot have been manufactured, tested and inspected in accordance with this specification and that all requirements have been met. When requested or specified in the purchase order or contract, a report of test results will be provided.

Upon the request of Southwest, the certification of an independent third party indicating conformance to the specification may be considered at Southwest's expense.



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**9. SAFETY DATA SHEETS**

In accordance with law, the Seller will supply Safety Data Sheets for all applicable items supplied under this specification to the following:

- 1) The Receiving Location
- 2) Engineering Staff
- 3) Southwest Gas Corporation  
Corporate Safety  
Mail Station LVA-120  
P.O. Box 98512  
Las Vegas, NV 89193-8510

**10. PRODUCT MARKING**

All couplings sold to Southwest will be marked with the following:

- Size
- Material
- Manufacturer
- Pressure Rating
- Temperature Rating
- Type
- Grade
- Model



**11. PACKAGING AND PACKAGE MARKING**

Seller will adequately prepare all couplings for shipment. Seller will furnish and install necessary covers to protect the couplings from sunlight, excessive heat, photochemical smog, rain, hail, wind, dust, etc. Couplings will be adequately sealed from possible damage from rough handling during transit. Packaging will facilitate its safe handling and its reshipment between the stocking and user locations. Each coupling along with installation instructions will be individually wrapped in transparent plastic.



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**12. STOCK CLASSIFICATION DESCRIPTION**

COUPLING, \_\_\_\_\_-INCH STEEL TUBING BY \_\_\_\_\_-INCH POLYETHYLENE TUBING,  
\_\_\_\_ WT, \_\_\_\_\_ (PRODUCT NAME).