




SOUTHWEST GAS CORPORATION

ENGINEERING STAFF

MATERIAL SPECIFICATION

Prepared By: Engineering Staff 

Approved By: Jerome T. Schmitz 

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Issue Date:	03/01/16
Superseded Date:	02/19/15

Couplings

Steel Adapter Couplings

1. SCOPE

This specification covers steel adapter couplings that connect polyethylene tubing to steel pipe. The steel connection end of the adapter couplings are either bored for socket welding or beveled so they can be butt welded or they are a combination of both. The other end of the adapter couplings has steel compression couplings for 5/8" O.D. or 1 1/8" O.D. polyethylene tubing.

2. APPLICABLE DOCUMENTS

- 2.1 ASTM International (ASTM) A 53M-10 (Oct. 2010), "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless."
- 2.2 ASTM International (ASTM) A 197-47, "Specification for Cupola Malleable Iron."
- 2.3 ASTM International (ASTM) A 513, "Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing."
- 2.4 ASTM International (ASTM) D 2000-70B, "Classification System for Elastomer Materials for Automotive Application."
- 2.5 AISI (American Iron and Steel Institute) AISI 12L15, "Leaded Steel."
- 2.6 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 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 adapter coupling to connect PE tubing to steel pipe shall incorporate a steel body bored and beveled on one end and with a compression coupling on the other end, incorporating a seal ring, integral stiffener and a threaded steel compression nut.
- 4.2 The Body of the coupling shall be made of steel conforming to ASTM 53 or AISI 12L15. The bored, beveled and chamfered faces of the body shall be free of ridges, burrs and tool tears.
- 4.3 The Compression Nuts shall be made of hexagon bar stock steel conforming to AISI 12L15.
- 4.4 The Seal Rings shall be made of an elastomer which meets ASTM D 2000-4BK710ZLZ2Z3 requirements. The 1 1/8" seal rings shall incorporate a metal ball chain to maximize pull-out strength.
- 4.5 The Compression Stiffeners on the polyethylene end of the couplings shall be made of 1010/1020 steel crew tubing which meets ASTM a 513 requirements.

5. PERFORMANCE REQUIREMENTS

- 5.1 Pressure rating of these steel adapter couplings is 60 psig.
- 5.2 Application of these steel adapter couplings is to connect polyethylene tubing to steel pipe. The adapter coupling with a 5/8" O.D. compression coupling on one end is beveled on the other end so that it can be welded to 1/2", 3/4" or 1" IPS steel pipe. The adapter coupling with a 1 1/8" O.D. compression coupling on one end is bored for 3/4" socket welding and beveled so that it can be butt welded to 1" or 1 1/4" IPS steel pipe.



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6. INSPECTION

- 6.1 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.
- 6.2 SWG retains the option to inspect the manufacture and testing of any and all materials, products or systems supplied to SWG under this specification at the manufacturer's facility.
- 6.3 SWG will make appropriate inspections and tests 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 rejection may take place at the manufacturer 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. This defective product will be replaced or returned for credit at the manufacturer's expense.
- 6.4 Any changes in the manufacturing of previously approved Steel Adapter Couplings covered under this specification for sale to SWG must be approved by SWG's Engineering Staff. **Failure to obtain SWG's approval may be cause for rejection and disqualification as an approved supplier.**

7. CERTIFICATION

The manufacturer's or supplier's certification shall be furnished to Southwest. This certification shall state that samples representing each lot have been manufactured, tested and inspected in accordance with this specification and that 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 part indicating conformance to the specification may be considered at Southwest's expense.



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8. 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 98510
Las Vegas, NV 89193-8510

9. PRODUCT MARKING

All materials, products or systems sold to Southwest will be marked with the following:

- Manufacturer's name or trademark
- Manufacturer's part number
- Material identification
- Nominal pipe size
- Schedule or nominal wall thickness

Southwest retains the right to require the materials, products or systems described in this specification to be marked with Southwest's purchase order number and/or head code identity.

10. PACKAGING AND PACKAGE MARKING


All products covered in this specification will be packaged in a manner to prevent damage during transportation and storage.



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11. STOCK CLASSIFICATION DESCRIPTION

COUPLING, ADAPTER, STEEL, HEAVY DUTY, _____ INCH O.D. WALL THICKNESS PE X _____ INCH O.D., STEEL COUPLING, LOCK TYPE, CONDUCTIVE ON STEEL TUBING END WITH COPPER SLEEVE.