




SOUTHWEST GAS CORPORATION

® ENGINEERING STAFF

MATERIAL SPECIFICATION

Prepared By: Engineering Staff 

Approved By: Jerome T. Schmitz 

Section No:	MS B-34
Page No.:	1 of 11
Issue Date:	03/01/16
Superseded Date:	01/16/15

PIPE FITTINGS

Bypass Tee, Linestopper, for PVC/ABS Pipe

1. SCOPE

This specification covers 1 1/4", 1 1/2" and 2" IPS linestopper fittings that are used to stop the flow of gas in PVC and ABS pipelines for the purpose of making repairs or main extensions at operating pressures up to 60 psig. The linestopper fittings will be used in conjunction with T.D. Williamson drilling and plugging equipment.

Linestopper fittings may be installed as single components without pressure testing.

2. APPLICABLE DOCUMENTS

- 2.1 American National Standards Institute (ANSI) B-1.1 "Unified Inch Screw Threads."
- 2.2 ASTM International (ASTM) D-2000, "Classification System for Rubber Products in Automotive Applications."
- 2.3 ASTM International (ASTM) D-2513-87, "Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings."
- 2.4 ASTM International (ASTM) D2513-09a, "Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing and Fittings."
- 2.5 United States Department of Transportation (DOT), Code of Federal Regulations, 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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Page No.:	2 of 11
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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 Linestopper fittings purchased under this specification will meet the requirements of ASTM D-2513-95c.
- 4.2 The resins from which the linestopper fittings are molded must be approved by Southwest Gas.
- 4.3 All fittings will be made from virgin material, except for any clean rework material which is generated by the manufacturer’s own pipe or fitting production for its own use. A maximum of 20% rework material will be allowed in fittings purchased by Southwest. The fittings produced must meet all of the requirements of this specification, whether containing rework material or not.
- 4.4 Linestopper fittings will be uniform in physical and chemical properties, and all components will be free of cracks, holes, foreign inclusions or other injurious defects.
- 4.5 The fittings will be clean and internally free of paint, dirt, sand and other debris.
- 4.6 The fittings shall contain suitable ultraviolet inhibitors so that their physical properties will not be adversely affected by exposure to natural ultraviolet light in locations throughout Southwest’s service area for at least 1 year from the date of manufacture.
- 4.7 All gaskets used in linestopper fittings will prevent any leakage of natural gas.
- 4.8 All o-rings will meet the requirements of ASTM D-2000.
- 4.9 All fittings will utilize a rigid internal tubular stiffener, other than a split tubular stiffener, in conjunction with the fitting.



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5. PERFORMANCE REQUIREMENTS

- 5.1 The fittings will be designed for use in gas distribution systems at pressures up to 100 psig, in all class locations and at temperatures up to 140°F (60°C). All fittings designed must be capable of operating at 60 psig and 140°F (60°C) simultaneously. All features must be acceptable to SWG.
- 5.2 Linestopper fittings will be used in conjunction with T.D. Williamson drilling and plugging equipment.
- 5.3 The fittings will be designed so that no harmful or hazardous substances will be released from the fitting into the gas and /or ground.
- 5.4 The fittings will be designed so that liquids, debris and other agents commonly found in natural gas pipelines will not adversely affect the performance of the fitting.

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 referenced in this specification that are sold to SWG.
- 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'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.
- 6.4 Any changes in the manufacturing of previously approved materials, products or systems described in material 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.**



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Page No.:	4 of 11
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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 party indicating conformance to the specification may be considered at Southwest's expense.

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


Marking of the bypass tee will comply with the marking requirements of ASTM D-2513-87. The marking method will provide permanent identification of the fittings, enabling access to quality and manufacturing records at any time and will include size, material classification, SDR rating, manufacturer's name, serial number, temperature and pressure rating. Each fitting must be marked ASTM D-2513-87. The temperature rating marking will be in accordance with ASTM D-2513-87 and is designated by the initials "CD" or "CE". Sometimes a third letter pertaining to the melt index is indicated with a "CDC" or "CED", the first two letters signifying the temperature rating. A qualifier for the ASTM D-2513-87 designation is optional with permission from Southwest Gas. For example, "Tested to ASTM D-2513-87, Paragraph X.X," A sticker which reads "PVC & ABS ONLY" will be firmly attached to all bypass tees.



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Page No.:	5 of 11
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10. PACKAGING AND PACKAGE MARKING

- 10.1 The manufacturer will adequately prepare all fittings for shipment. The manufacturer will furnish and install necessary covers to protect the fittings from sunlight, excessive heat, photochemical smog, rain, hail, wind, dust, etc. Fittings will be adequately sealed and protected during shipment to prevent entrance of foreign matter and possible damage from rough handling during transit. Packaging will facilitate its safe handling and its reshipment between the stocking user locations. Each fitting and a set of installation instructions will be individually wrapped with transparent plastic.
- 10.2 Southwest Gas will store the fittings indoors until they are transferred to the various gas crew trucks.

11. STOCK CLASSIFICATION DESCRIPTION

- TEE, BYPASS, PBT, IPS X IPS, WITH PLUG AND CAP, _____ (SIZE) IPS X _____ (SIZE) IPS.
- TEE, BYPASS, PBT, IPS X IPS, WITH PLUG, CAP AND OUTLET ASSEMBLY, _____ (SIZE X _____ (SIZE) IPS.
- TEE, BYPASS, PBT, IPS X IPS, WITH PLUG, CAP AND ABANDONMENT ASSEMBLY NUT, _____ (SIZE) IPS X _____ (SIZE) IPS.
- NUT, OUTLET ASSEMBLY, FOR USE WITH BYPASS TEE, _____ (SIZE).
- ADAPTER, TUBING, O.D. X I.D., FOR USE WITH BYPASS TEE, _____ (SIZE) O.D. X _____ (SIZE) I.D.
- NUT, ABANDONMENT, FOR USE WITH BYPASS TEE, _____ (SIZE).