



# **SOUTHWEST GAS CORPORATION**

® ENGINEERING STAFF

## ***MATERIAL SPECIFICATION***

*Prepared By:* Engineering Staff 

*Approved By:* Jerome T. Schmitz 

<b>Section No:</b>	MS J-3
<b>Page No.:</b>	1 of 28
<b>Issue Date:</b>	03/01/16
<b>Superseded Date:</b>	02/19/15

### **PRESSURE CONTROL FITTINGS**

#### **Stopple Fittings**

---

#### **1. SCOPE**

This specification covers stopple fittings in sizes 16-inch to 24-inch in ANSI Classes 150, 300 and 600. These fittings are used with T.D. Williamson or equivalent pipeline tapping and plugging equipment. The following fittings are covered:

- Spherical fittings with side or bottom outlet.
- Stopple fittings with full encirclement saddles.
- Tapping fittings with full encirclement saddles for branch or bypass connections using a permanent valve.
- Reducing branch fittings for reduced size branch or bypass connections.
- 3-Way Tees.

#### **2. APPLICABLE DOCUMENTS**

- 2.1 American National Standards Institute (ANSI) B-1.20.1, "Pipe Threads, General Purpose (INCH)."
- 2.2 American National Standards Institute (ANSI) B-16.5, "Steel Pipe Flanges and Flanged Fittings."
- 2.3 ASTM International (ASTM) A-516, "Specification for Pressure Vessel Plates, Carbon Steel, for Moderate- and Lower- Temperature Services."
- 2.4 ASTM International (ASTM) A-537, "Specification for Pressure Vessel Plates, Heat-Treated, Carbon-Manganese-Silicon Steel."
- 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.



**SOUTHWEST GAS CORPORATION**

® ENGINEERING STAFF

**MATERIAL SPECIFICATION**

*Prepared By:* Engineering Staff

*Approved By:* Jerome T. Schmitz

<b>Section No:</b>	MS J-3
<b>Page No.:</b>	2 of 28
<b>Issue Date:</b>	03/01/16
<b>Superseded Date:</b>	02/19/15

**PRESSURE CONTROL FITTINGS**

Stopple Fittings

---

**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.
- 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 All steel components will be manufactured in accordance with ASTM A-516 or A-537.
- 4.2 The manufacturer must provide unit stress calculations in accordance with DOT 49 CFR 192.143 or verification of prototype testing in accordance with DOT 49 CFR 192.505d. Prototypes are defined as follows:
  - One fitting of a particular type and design may be used to represent fittings from 1/2 to 2 times the size of the fittings of same type.
  - A fitting of a particular material grade and/or wall thickness may represent fittings of another material grade and/or wall thickness if the design is essentially the same and only the material grade and/or wall thickness are varied. Manufacturers must be able to verify the tensile strength used in accordance with the applicable material standard.
  - Fitting type differentiation will be approved by Southwest Gas.



**SOUTHWEST GAS CORPORATION**

® ENGINEERING STAFF

**MATERIAL SPECIFICATION**

*Prepared By:* Engineering Staff

*Approved By:* Jerome T. Schmitz

<b>Section No:</b>	MS J-3
<b>Page No.:</b>	3 of 28
<b>Issue Date:</b>	03/01/16
<b>Superseded Date:</b>	02/19/15

**PRESSURE CONTROL FITTINGS**

Stopple Fittings

---

**4. MATERIALS AND MANUFACTURE (Cont'd)**

- 4.3 All applicable requirements of ANSI B-1.20.1, shall apply except as required to meet the performance specifications in paragraph 5.1 of this specification.
- 4.4 All flanges will be manufactured in accordance with ANSI B-16.5 except as required to meet the performance specification in Paragraph 5.1 of this specification.
- 4.5 The manufacturer will provide the design factor used to determine the pressure rating and a maximum test pressure.
- 4.6 Special order stopple fittings will be available as requested by SWG.
- 4.7 The maximum carbon equivalency (CE) value for weld sleeve material will be 0.43. The International Institute of Welding (IIW) formula found in ASTM A-537 will be used to determine the CE.

**5. PERFORMANCE REQUIREMENTS**

- 5.1 All thread and flange design will allow the proper operation of the fitting during tapping and plugging process.
- 5.2 Each stopple fitting will be capable of withstanding a hydrostatic or a test with nitrogen pressure test at a pressure equal to the maximum test pressure provided by the manufacturer.

**6. DIMENSIONS AND TOLERANCES**

The dimensions and tolerances will be in accordance with Appendix A through Appendix P of this specification.

**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.



**SOUTHWEST GAS CORPORATION**

® ENGINEERING STAFF

## ***MATERIAL SPECIFICATION***

*Prepared By:* Engineering Staff 

*Approved By:* Jerome T. Schmitz 

<b>Section No:</b>	MS J-3
<b>Page No.:</b>	4 of 28
<b>Issue Date:</b>	03/01/16
<b>Superseded Date:</b>	02/19/15

### **PRESSURE CONTROL FITTINGS**

Stopple Fittings

---

#### **7. INSPECTION (Cont'd)**

7.3 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.

7.4 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 SWG'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.

#### **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  
Staff Safety  
Mail Station LVA-120  
P.O. Box 98510  
Las Vegas, NV 89193-8510



**SOUTHWEST GAS CORPORATION**

® ENGINEERING STAFF

## ***MATERIAL SPECIFICATION***

*Prepared By:* Engineering Staff 

*Approved By:* Jerome T. Schmitz 

<b>Section No:</b>	MS J-3
<b>Page No.:</b>	5 of 28
<b>Issue Date:</b>	03/01/16
<b>Superseded Date:</b>	02/19/15

### **PRESSURE CONTROL FITTINGS**

Stopple Fittings

---

#### **10. PRODUCT MARKING**

All stopple fittings will be marked with the following:

- Manufacturer's name or trademark
- Material designation
- Size
- Pressure rating

#### **11. PACKAGING AND PACKAGE MARKING**

11.1 Stopple fittings will be individually wrapped and packaged in a manner to prevent damage during transportation and storage. Installation instructions will be packed with each shipment.

11.2 The package will be marked with the following:

- Manufacturer's name or trademark
- Manufacturer's part number
- Size

#### **12. STOCK CLASSIFICATION DESCRIPTION**

STOPPLE FITTING, \_\_\_\_\_ INCH, (ANSI 150, 300, 600).