



**SOUTHWEST GAS CORPORATION**

® **ENGINEERING STAFF**

## ***MATERIAL SPECIFICATION***

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<b>Issue Date:</b>	10/10/18
<b>Superseded Date:</b>	12/14/15

**Prepared By:** Engineering Staff 

**Approved By:** Jerome T. Schmitz 

### **PIPE FITTINGS**

3/4-Inch Meter Loop

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#### **1. SCOPE**

This specification covers meter loop fittings fabricated from special 3/4-inch steel pipe. These fittings are used in meter set assemblies with up to and including 425 Cfh capacity to affect the 180° direction change between the standard service regulator outlet and the meter inlet. Standard 3/4-inch pipe threads are provided on each end.

#### **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) Z-55.1 "Finishes for Industrial Apparatus and Equipment."
- 2.3 ASTM International (ASTM) A-53, "Standard Specification for Pipe; Steel and Hot Dipped, Zinc Coated, Welded, and Seamless."
- 2.4 ASTM International (ASTM) A-197, "Standard Specification for Cupola Malleable Iron."
- 2.5 ASTM International (ASTM) E-8, "Test Method for Tension Testing of Metallic Materials."
- 2.6 Title 49, Code of Federal Regulations (CFR), Part 192, "Transportation of Natural and Other Gas by Pipeline; Minimum Safety Standards" (49 CFR 192).

**NOTE:** Unless otherwise specified, the editions of the above document in whole or in part by 49 CFR 192 are applicable. The above documents, and parts of documents (including annexes), not incorporated by 49 CFR 192 are incorporated by this Material Specification and will be the most recent edition. In the event a conflict exists between the applicable documents and/or this Material Specification, the requirements of 49 CFR 192 shall govern, and in the event of all other conflicts, the more stringent requirement shall govern.



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**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 Steel pipe used for loops will be made from ASTM A-53 (Type E or S), Grade A or B, Schedule 40. The pipe must meet the dimensions and tolerances outlined in paragraph 6.1.
- 4.2 Threads are 3/4-inch male NPT in accordance with ANSI B-1.20.1 for NPT threads. Pipe and thread will be free of burrs and other defects.
- 4.3 The meter loops shall be manufactured in accordance with dimensions shown in Figure B-27.1 of this specification. The pipe will be bent smoothly and uniformly with no significant wrinkles or flats.



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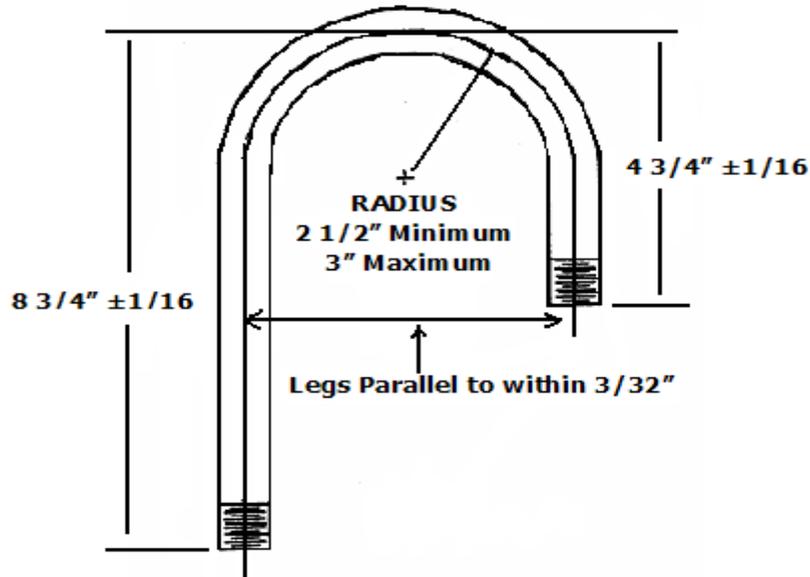
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**4. MATERIALS AND MANUFACTURING (Cont'd)**



**FIGURE B-27.1**



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

- 4.4 Unless otherwise specified, all threaded 3/4-inch meter loops shall be coated with an Industrial Gray Coating No. 49 per ANSI Z-55.1. The paint system used shall be one of the systems listed in Tables B-27.1 and B-27.2 or a pre-approved equivalent.
- 4.5 The coating shall be a minimum of 5 mils thick, unless otherwise approved by Southwest Gas due to the coating process.
- 4.6 The coating will cover no more than 4 threads. There must not be any major coating build-up on the threads. Overspray beyond the first four threads and on female threads is allowable so long as it does not exceed 0.5 mil film thickness.

<b>APPROVED PAINT SYSTEMS</b>				
<b>SYSTEM NUMBER</b>	<b>SURFACE PREPARATION</b>	<b>PRIMER COAT</b>	<b>INTERMEDIATE COAT</b>	<b>FINISH COAT</b>
1	Solvent Cleaning (SSPC-SP 1)  THEN  Near-White Blast Cleaning (SSPC-SP 10)	High-Build Polyamide Epoxy, DFT 4.0 to 5.0 Mils.	None	Aliphatic Polyurethane  DFT 2.0 to 3.0 Mils.
2	Solvent Cleaning (SSPC-SP 1)  THEN  Near-White Blast Cleaning (SSPC-SP 10)	Modified Alkyd, Inhibited, Chromate and Lead-Free, DFT 2.0 Mils.	Alkyd Enamel, DFT 1.5 to 2.0 Mils.	Alkyd Enamel, DFT 1.5 to 2.0 Mils.
3	Solvent Cleaning (SSPC-SP 1)  THEN  Near-White Blast Cleaning (SSPC-SP 10)	Aluminum Flake Epoxy Mastic, DFT 4.0 to 5.0 Mils.	None	Aliphatic Polyurethane, DFT 2.0 to 3.0 Mils.

**TABLE B-27.1**



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

APPROVED PAINT SYSTEMS MANUFACTURER'S PART NUMBERS				
SYSTEM NUMBER	CARBOLINE	SHERWIN WILLIAMS	RUST-OLEUM	KRYLON
1 <sup>1</sup>	801	B58 T 104	9100 Series	
	834	B65 W 300 Series	9400 Series	
2 <sup>1</sup>	GP-818	B50 HZ 1	7669	00691
	Subsil B	B56 Series	7686	00871
3 <sup>1</sup>	Carbomastic 15	B62 S 100		
	834	B65 W 300 Series		

**NOTE:** <sup>1</sup> For each paint system, the top part number is for the primer and the bottom part number is for the top coat.

**TABLE B-27.2**

**5. PERFORMANCE REQUIREMENTS**

All iron steel used to make the loops to this specification will meet the tensile requirements of ASTM A-197. The testing procedure will conform to the requirements of ASTM E-8. All testing will include the yield strength and elongation at room temperature. Southwest may, at their discretion, require the results of such tests if specified on the purchase order.

**6. DIMENSIONS AND TOLERANCES**

Nominal Diameter Inches	Outside Diameter Inches	Schedule	Wall Thickness		Thread
			Nominal Inches	Min. Inches	
3/4	1.050	40	0.113	0.099	NPT

**TABLE B-27.3**



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## **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.
- 7.3 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 rejection will be made promptly thereafter 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 SWG. This certification will state that samples representing each loop 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 shall 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 89193-85

**10. PRODUCT MARKING**

All meter loops sold to SWG will be marked with the manufacturer's name or trademark and the manufacturer's part number. SWG retains the right to require the loops to be marked with SWG purchase order number.

**11. PACKAGE AND PACKAGE MARKING**

All loops will be packaged in a manner to prevent damage during transportation and storage.

**12. STOCK CLASSIFICATION DESCRIPTION**

LOOP, METER, STEEL, \_\_\_\_\_-INCH, RADIUS \_\_\_\_\_-INCH, (SCHEDULE 40), ASTM A-53.