



**SOUTHWEST GAS CORPORATION**

ENGINEERING STAFF

***MATERIAL SPECIFICATION***

**Prepared By:** Engineering Staff 

**Approved By:** Jerome T. Schmitz 

<b>Section No.:</b>	MS E-16
<b>Page No.:</b>	1 of 10
<b>Issue Date:</b>	03/01/16
<b>Superseded Date:</b>	02/24/15

**SERVICE FITTINGS**

2" Manifold-Valve-Lock Assembly

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**1. SCOPE**

This specification covers the 2-inch manifold-valve-lock assembly consisting of a manifold with either Schedules 40 or 80 outlets covered by MS E-9 and 3/4-inch valves and locks covered by MS D-2.

This specification also covers 2-inch manifold-valve-lock assemblies consisting of a manifold with either Schedule 40 or 80 outlets covered by MS E-9, 2-inch caps and 2-inch x 3/4-inch reducers covered by MS B-5, corresponding quantity of 3/4-inch valves and locks covered by MS D-2 and corresponding quantities of specific meter swivels covered by MS M-7.

**2. APPLICABLE DOCUMENTS**

- 2.1 American National Standards Institute (ANSI) Z-55.1 "Finishes for Industrial Apparatus and Equipment."
- 2.2 Southwest Gas Material Specification (MS) B-4, "Pipe Nipples, Threaded and Plain End."
- 2.3 Southwest Gas Material Specification (MS) B-5, "Fittings, Malleable Iron Classes 150 and 300."
- 2.4 Southwest Gas Material Specification (MS) D-2, "Stopcocks."
- 2.5 Southwest Gas Material Specification (MS) E-9, "Meter Manifolds Prefabricated Schedules 40 and 90."
- 2.6 Southwest Gas Material Specification (MS) H-6, "Pipe Compounds, Pipe Thread Compounds and Lubricants."
- 2.7 Southwest Gas Material Specification (MS) M-7, "Meter Connections, Welded Steel Case, Iron Case and Aluminum Case Meters."
- 2.8 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.



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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 technical product information that a manufacturer must submit to SWG to determine if the product is suitable for use unless specifically stated otherwise.

**4. MATERIALS AND MANUFACTURING**

- 4.1 Assembly shall be pressure tested at 100 psig and shall not leak when checked with soap solution.
- 4.2 Unless otherwise specified, all manifolds 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 E-16.1 and E-16.2 or approved equivalent.
- 4.3 Pipe nipples shall meet all specifications of Southwest Gas MS B-4.
- 4.4 Caps and reducers shall meet all specifications of Southwest Gas MS B-5.
- 4.5 Stopcocks shall be 3/4-inch valves per Southwest Gas MS D-2.
- 4.6 Pipe thread compound shall be in accordance with the requirements of Southwest Gas MS H-6.
- 4.7 Meter swivels shall meet all specifications of Southwest Gas MS M-7.



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

APPROVED PAINT SYSTEMS				
SYSTEM NUMBER	SURFACE PREPARATION	PRIMER COAT	INTERMEDIATE COAT	FINISH COAT
1	Solvent Cleaning (SSPC-SP 1)  THEN  Power Tool Cleaning (SSPC-SP 3) Rusted Spots	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  Power Tool Cleaning (SSPC-SP 3) Rusted Spots	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  Power Tool Cleaning (SSPC-SP 3) Rusted Spots	Aluminum Flake Epoxy Mastic, DFT 4.0 to 5.0 Mils.	None	Aliphatic Polyurethane DFT 2.0 to 3.0 Mils.

**TABLE E-16.1**



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

APPROVED PAINT SYSTEMS MANUFACTURERS' 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 E-16.2**



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**5. PERFORMANCE REQUIREMENTS**

- 5.1 Two-Inch Manifold-Valve-Lock Assembly with Offset Swivel End Cap and Reducer:
  - 5.1.1 The locks, valves, caps, reducers and meter swivels shall be assembled on the manifold with pipe per MS H-6 before the assembly is leak tested at 100 psig.
  - 5.1.2 Upon successful completion of the leak test, caps shall be installed in the outlets of the meter swivels and reducers to keep out foreign matter.
  - 5.1.3 Orientation of the valves on the manifold shall be as shown in Appendix A.
- 5.2 Two-Inch Manifold-Valve-Lock Assembly without Offset Swivel End Cap and Reducer:
  - 5.2.1 Upon successful completion of the leak test, caps shall be installed in the outlets of the meter swivels and reducers to keep out foreign matter.
  - 5.2.2 Orientation of the valves on the manifold shall be as shown in Appendix A of this material specification.

**6. DIMENSIONS AND TOLERANCES**

Dimensions shall be in accordance with Appendix A of this material 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.



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**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 SWG. 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  
Corporate Safety  
Mail Station LVA-581  
P.O. Box 98510  
Las Vegas, NV 89193-8510



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**10. PRODUCT MARKING**

After painting, a label shall be affixed to the manifold showing the following:

- Manufacturer
- Type of meter the manifold was built for (aluminum/iron-case meters or welded/tin-case meters)
- Type of meter outlets (Schedule 40 or 80 outlets)

**11. PACKAGING & PACKAGE MARKING**

To assure the delivery of undamaged parts, the assemblies shall be properly bundled and packaged. The 2-inch header of the manifold shall be capped and the outlets of the valves shall be plugged with plastic plugs.

**12. STOCK CLASSIFICATION DESCRIPTION**

MANIFOLD, \_\_\_\_\_ METER, 2-INCH IPS, (SCHEDULE 40 OR 80) HEADER  
SPACING.

MANIFOLD, \_\_\_\_\_ METER, 2-INCH IPS, (SCHEDULE 40 OR 80), HEADER 11-INCH  
SPACING, 2-INCH CAP, 2-INCH X 3/4-INCH MALLEABLE IRON REDUCER, 3/4-INCH  
VALVE WITH LOCK, METER SWIVEL.