

1 0 SCOPE

1 1 The minimum requirements for testing and fabricating assemblies for natural gas service are specified. These requirements apply primarily to assemblies for purchase by PGandE. However, all items fabricated by PGandE must also meet these requirements, except the pre-installation hydrostatic test is not required for facilities which will receive an 8 hour post-installation test (Refer to Gas Standard A-34 Appendix A)

This standard applies to most filters dehydrators orifice meters tests heads, tanks and other assemblies and equipment. Products fabricated in accordance with a specification listed in Appendix A of General Order 112-C of the California Public Utilities Commission are generally excepted from this standard (see Par 9 0). Other exceptions from this standard shall be authorized only by the Gas System Design Department. More stringent requirements for certain products or applications may be issued if needed.

1 2 This standard shall not be interpreted in a manner which would allow relaxation of any requirements specified elsewhere. Other standards specifications or special instructions which are more stringent shall be followed.

Consult the Gas System Design Department if there are questions regarding compliance, application of this standard or if further information is required.

2 0 QUALIFICATION OF WELDING PROCEDURES

Each welding procedure used in the fabrication of the assembly must be qualified under either Section IX of the ASME Boiler and Pressure Vessel Code or Section 2 of API Standard 1104. Reference G 0 112-C Paragraph 192 225.

3 0 QUALIFICATION OF WELDERS

3 1 For assemblies with a hoop stress level of less than 20% of SMYS each welder shall be qualified under 3 2 or shall be tested by one butt weld and one sleeve weld per Gas Standard D-30.

O 12077 Issued for use		SUN								
C	D	D	A	C	D	D	O	A		
APPROVED		SUN (12/12) at BOB [Signature]								
BY	PIPING - DATA SHEET DESIGN AND TEST REQUIREMENTS FOR ASSEMBLIES AND EQUIPMENT GAS STANDARD PACIFIC GAS AND ELECTRIC COMPANY								SUPERSEDED	
DSGN									SUPERSEDED BY	
DR.									SHEET No 1 OF 3 SHEETS	
CH.									V M CN	
O.K.									086532 0	
DATE	SCALE									
7-23-78										

3 2 For assemblies with hoop stress of 20% or more of SMYS each welder shall be qualified in accordance with Section IX of the ASME Boiler and Pressure Vessel Code or Section 3 of API Standard 1104 Reference G O 112-C Paragraph 192 227

4 0 WELD INSPECTION

4 1 Assemblies shall have 100% of all welds visually inspected by a qualified welding inspector Visual inspection shall insure

4 1 1 Welding is performed in accordance with the welding procedure

4 1 2 Weld is acceptable according to standards of Section 6 of API 1104

4 2 Assemblies with a hoop stress of 20% or more of SMYS shall have 100% of all butt welds on pipe or vessels 6 diameter or larger inspected by radiography

Reference G O 112-C Paragraph 192 241 and Paragraph 192 243

5 0 PRESSURE TESTS AT TIME OF ASSEMBLY (PRE-INSTALLATION TESTS)

All assemblies shall be hydrostatically tested to a minimum of 1 5 times the design pressure The test duration shall be a minimum of one hour for those designed to operate under 30% of SMYS and four hours for those designed to operate at 30% or more of SMYS

Reference G O 112-C, Paragraph 192 507(c) and Paragraph 192 505(e)

NOTE (Refer to Gas Standard A-34, Appendix A for post-installation test requirements)

6 0 MATERIALS

6 1 All pipe shall be Grade B seamless except pipe 2 inches and smaller may be furnace butt welded if the operating pressure is limited to 400 psig maximum Pipe shall be standard weight or heavier unless an alternate is approved by the Gas System Design Department Pipe shall be manufactured to API 5L ASTM A-53 or ASTM A-106 specifications

PG & E CO

DRAWING NUMBER REV

SHEET 2 OF 3 SHEETS

086532

0

MICROFILM

6 2 Where applicable fittings and other material used in the assembly shall be manufactured under a specification listed in Appendix A of General Order 112-C

7 0 REPORT

A test report shall be prepared for each assembly. This report shall specify hydrostatic test pressure and duration, and shall indicate that appropriate weld inspection was performed. Alternate (with prior approval from Gas System Design Department) for equipment purchased at the rate of at least several units per year and with a hoop stress of less than 20% of SMYS; the manufacturer may send a letter to the Gas System Design Department certifying that the units meet weld inspection and hydrostatic test requirements of this standard. This letter will eliminate the need for individual reports on the specified units.

8 0 PRESSURE RATING

8 1 Each assembly shall have a rated pressure which produces a hoop stress of not more than 50% of SMYS. The hoop stress shall be calculated as indicated by General Order 112-C Paragraph 192 105

8 2 Weld inspection and hydrostatic test requirements are based on maximum calculated hoop stress at rated pressure

9 0 REQUIREMENTS FOR ITEMS CONSTRUCTED UNDER A SPECIFICATION LISTED IN APPENDIX A OF GENERAL ORDER 112-C

9 1 The supplier may be requested to provide verification that the product complies with the specification

9 2 For items constructed under the ASME Boiler and Pressure Vessel Code Section VIII; ASME test certificates will be required for hoop stress over 20% of SMYS. Exceptions shall be approved by the Gas System Design Department