



GAS DESIGN STANDARD PG&E-APPROVED GAS MATERIALS MANUFACTURERS

N-01

Publication Date: 08/21/2019 Effective Date: 11/21/2019 Rev. 4a

Purpose and Scope

This gas design standard (GDS) provides a partial list (see Table 1) of current Pacific Gas & Electric Company (PG&E or Company) approved manufacturers included in the Green Book for those without access to the complete list currently available via SAP.

General Information

1. Not every Company-approved manufacturer supplies all the approved variations of each commodity. Refer to the appropriate reference document for approved part descriptions.
2. If a plant location is not listed, then material from all manufacturing locations operated by the named manufacturer is approved for use. If a plant location is listed, then only material manufactured at that approved location is acceptable.
3. The complete list of Company-approved manufacturers is stored and managed in the Qualified Suppliers List (QSL) on SAP. If other materials are needed, contact your local PG&E representative to obtain information from SAP.

Table 1. PG&E-Approved Manufacturers

Material	Approved Manufacturer (Plant)	Document Reference
PE Electrofusion Fittings and Tapping Tees	Innogaz (Goa, India and Mannheim, Germany)	<ul style="list-style-type: none"> • GDS B-90.3, "Electrofusion Fittings and Tapping Tees"
	IPEX-Friatec (Mannheim, Germany)	
	Plasson (Ma'agan Michael, Israel)	
PE Excess Flow Valves	Honeywell Perfection (Geneva, OH)	<ul style="list-style-type: none"> • GDS A-93.3, "Excess Flow Valves"
PE Fittings Mechanical Transition	Chicago Fittings	<ul style="list-style-type: none"> • GDS B-91, "Transition Fittings for Polyethylene Pipe"
	Continental Industries (Tulsa, OK)	
	Normac	
PE Mechanical Fittings	Continental Industries (Tulsa, OK)	<ul style="list-style-type: none"> • GDS B-91.1, "Polyethylene (PE) System Mechanical Fittings" • EMS-4761, "Non-Corrosible Mechanical Fittings for Polyethylene Gas Piping and Tubing"
PE Pipe & Tubing	JM Eagle (Tulsa, OK)	<ul style="list-style-type: none"> • GDS A-93, "Polyethylene Pipe Specifications and Design Considerations" • EMS-2502, "Specifications for Furnishing and Delivery of Polyethylene (PE) Plastic Tubing, ½ in. and 1 in." • EMS-2503, "Specifications for Furnishing and Delivery of Polyethylene (PE) Plastic Piping, 1-1/4 in. to 10 in."
	Performance Pipe (Knoxville, TN)	
	Performance Pipe (Pryor, OK)	
	Performance Pipe (Reno, NV)	
	PolyPipe/Dura-line (Gainesville, TX)	

Table 1. PG&E-Approved Manufacturers (continued)

Material	Approved Manufacturer (Plant)	Document Reference
PE Saddle Fittings	Central Plastics (Shawnee, OK)	<ul style="list-style-type: none"> GDS B-90.1, "Plastic System Saddle Fittings" EMS-4758, "Heat Fusion Fittings for Polyethylene (PE) Gas Piping and Tubing" EMS-4761, "Non-Corrodible Mechanical Fittings for Polyethylene Gas Piping and Tubing"
	Continental Industries (Tulsa, OK)	
	Performance Pipe (Bloomfield, IA)	
PE Socket and Butt Fusion Fittings	Central Plastics (Shawnee, OK)	<ul style="list-style-type: none"> GDS B-90, "Plastic System Socket and Butt Fusion Fittings" EMS-4758, "Heat Fusion Fittings for Polyethylene (PE) Gas Piping and Tubing"
	Performance Pipe (Bloomfield, IA)	
PE System Accessories	Continental Industries (Tulsa, OK)	<ul style="list-style-type: none"> GDS B-90.2, "Polyethylene (PE) System Accessories"
	Performance Pipe (Bloomfield, IA)	
	JM Eagle (Tulsa, OK)	
	Innogaz (Goa, India and Mannheim, Germany)	
	Plasson (Ma'agan Michael, Israel)	
	Central Plastics (Shawnee, OK)	
PE Valves	Andronaco (Kentwood)	<ul style="list-style-type: none"> GDS F-90, "Polyethylene (PE) Valves"
	Honeywell Perfection (Geneva, OH)	
	Kerotest (Mansoura, LA)	
Risers, Pre-Fabricated Gas Service, and Riser Kits	Honeywell -Perfection (Geneva, OH)	<ul style="list-style-type: none"> GDS A-91, "Pre-Fabricated Risers" EMS-6421, "Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic ¾ in. x ½ in. CTS and ¾ in. x 1 in. CTS Gas Service Risers" EMS-7030, "Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic 1¼" x 1 CTS and 1¼" x 1¼" IPS Gas Service Risers"
	R.W. Lyall (New Berlin, WI and Corona, CA)	
Standard Threaded Pipe Caps	Tube Forgings of America (Forged Steel)	<ul style="list-style-type: none"> GDS B-10, "Standard Pipe Caps"
	Ward (Malleable Iron)	
	Mill Iron Works (Forged Steel)	
Threaded Pipe Plugs	Bonney Forge (Forged Steel)	<ul style="list-style-type: none"> GDS B-10.1, "Standard Pipe Plugs"
	Advance Engineering (Cast Iron)	
Standard Threaded Steel Pipe Nipple	Perfect Pipe	<ul style="list-style-type: none"> GDS B-13, "Standard Threaded Steel Pipe Nipple"
	Jinan Meide	
Extra Heavy Threaded Steel Pipe Nipples, Toe Pipe Nipples	Perfect Pipe	<ul style="list-style-type: none"> GDS B-13.1, "Extra Heavy Pipe Nipples" GDS B-13.2, "Threaded One End Pipe Nipples (Toe)" GDS B-13.4, "Branch Nipple"

Table 1. PG&E-Approved Manufacturers (continued)

Material	Approved Manufacturer (Plant)	Document Reference
Swage Nipples	Mill Iron Works	<ul style="list-style-type: none"> GDS B-13.3, "Concentric Reducing Nipple (Swage Nipple)"
	Perfect Pipe	
Stainless Steel Pipe Nipples	Swagelok	<ul style="list-style-type: none"> GDS B-13.5, "Stainless Steel Threaded Nipple"
	Hoke	
	SSP TruFit	
Threaded Tees, Elbows, Unions, and Bushings	Bonney Forge (Forged Steel)	<ul style="list-style-type: none"> GDS B-12, "Standard 90° Threaded Elbows" GDS B-12.1, "Standard Reducing 90° Elbows" GDS B -12.2, "Standard 90° Threaded Street Elbows" GDS B-12.3, "45° Threaded Elbow" GDS B-14, "Standard Threaded Tee" GDS B-14.1, "Standard Threaded Street Tee" GDS B-14.2, "Reducing Threaded Tee" GDS B-15, "Standard Threaded Unions" GDS B-15.1 "Threaded Bushing"
	Ward (Malleable Iron)	
	Anvil (Malleable Iron)	
Steel One-Piece Line Stopper Fittings	Mueller	<ul style="list-style-type: none"> GDS C-16.3, "Mueller H-17190 Welding Line Stopper Fitting" GDS C-16.4, "Mueller H-17191 Mechanical Joint Like Stopper Fitting" GDS C-64.1, "TDW Shortstopp II: 6"—12" Fitting"
	TDW	
Steel Save-A-Valves	Mueller	<ul style="list-style-type: none"> GDS C-14, "Mueller Save-A-Valve Nipples"
<2" Diameter Steel Seamless Pipe	PTC Alliance (Darlington, SC)	<ul style="list-style-type: none"> GDS A-15, "Code Numbers for Steel Pipe"
	Michigan Seamless Tube (South Lyon, MI)	
	Benteler Tube & Steel (Shreveport, LA)	
Steel Service Tees	Continental Industries (Tulsa, OK)	<ul style="list-style-type: none"> GDS C-10, "Mueller Service Tees Types H-17500 and H-17501" GDS C-10.1, "Mueller Flanged Tees Types H-17505 and H-17506" GDS C-11, "Mueller Valve, Tee-Type H-17656" GDS C-13, "Service Tapping Tee with Coupon Retaining Punch" GDS B-91, "Transition Fittings for Polyethylene Pipe"
	Mueller	
Steel Two-Piece Line Stopper Fittings	Mueller	<ul style="list-style-type: none"> GDS C-15.2, "Mueller Welding Line Stopper Fittings H-17055, H-17056, H-17155, and H-17156" GDS C-15.3, "Mueller Welding Line Stopper Fittings H-17255, H-17256, H 17257, H-17275, H-17276, and H-17277"
	Blackhawk (Stopple fitting)	
	TDW (Stopple fitting)	
Steel Two-Piece Line Stopper Fittings with Bottom Connection	Mueller	<ul style="list-style-type: none"> GDS C-16.2, "Mueller Welding Line Stopper Fittings with Bottom Connection"
Steel Two-Piece Spherical Line Stopper Fittings with Bottom or Side Connection	Mueller	<ul style="list-style-type: none"> GDS C-17, "Mueller Spherical Line Stopper Fittings"
Steel Unions Insulated Threaded	Central Plastics	<ul style="list-style-type: none"> GDS O-23, "Insulated Threaded Unions"

Target Audience

Personnel involved in gas engineering and construction inspection.

Definitions

NA

Acronyms and Abbreviations

PE: Polyethylene
QSL: Qualified Suppliers List

Compliance Requirement / Regulatory Commitment

Code of Federal Regulations (CFR) Title 49, Part 192—Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards, Subpart B—Materials

References

EMS-2502, "Specifications for Furnishing and Delivery of Polyethylene (PE) Plastic Tubing, ½ in. and 1 in."

EMS-2503, "Specifications for Furnishing and Delivery of Polyethylene (PE) Plastic Piping, 1-1/4 in. to 10 in."

EMS-4758, "Heat Fusion Fittings for Polyethylene (PE) Gas Piping and Tubing"

EMS-4761, "Non-Corrodible Mechanical Fittings for Polyethylene Gas Piping and Tubing"

EMS-6421, "Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic ¾ in. x ½ in. CTS and ¾ in. x 1 in. CTS Gas Service Risers"

EMS-7030, "Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic 1¼" x 1" CTS and 1¼" x 1¼" IPS Gas Service Risers"

GDS A-15, "Code Numbers for Steel Pipe"

GDS A-91, "Prefabricated Risers"

GDS A-93, "Polyethylene Pipe Specifications and Design Considerations"

GDS A-93.3, "Excess Flow Valves"

GDS B-10, "Standard Pipe Caps"

GDS B-10.1, "Standard Pipe Plugs"

GDS B-11, "Standard Threaded Pipe Couplings"

References (continued)

GDS B-11.1, "Threaded Reducers (Bell Reducers)"

GDS B-12, "Standard 90° Threaded Elbows"

GDS B-12.1, "Standard Reducing 90° Elbows"

GDS B-12.2, "Standard 90 Degree Threaded Street Elbows"

GDS B-12.3, "45° Threaded Elbow"

GDS B-12.4, "Reducing Street Elbow"

GDS B-13, "Standard Threaded Pipe Nipples"

GDS B-13.1, "Extra Heavy Pipe Nipples"

GDS B-13.2, "Threaded One End Pipe Nipples (TOE)"

GDS B-13.3, "Concentric Reducing Nipple (Swage Nipple)"

GDS B-13.4, "Branch Nipple"

GDS B-14, "Standard Threaded Tee"

GDS B-14.1, "Standard Threaded Street Tee"

GDS B-14.2, "Reducing Threaded Tee"

GDS B-15, "Standard Threaded Unions"

GDS B-15.1, "Threaded Bushing"

GDS B-90, "Plastic System Socket and Butt Fusion Fittings"

GDS B-90.1, "Plastic System Saddle Fittings"

GDS B-90.2, "Polyethylene (PE) System Accessories"

GDS B-90.3, "Electrofusion Fittings and Tapping Tees"

GDS B-91, "Transition Fittings for Polyethylene Pipe"

GDS B-91.1, "Polyethylene (PE) System Mechanical Fittings"

GDS C-10, "Mueller Service Tees Types H-17500 and H-17501"

GDS C-10.1, "Mueller Flanged Tees Types H-17505 and H-17506"

References (continued)

GDS C-11, "Mueller Valve, Tee-Type H-17656"

GDS C-13, "Service Tapping Tee with Coupon Retaining Punch"

GDS C-14, "Mueller Save-A-Valve Nipples"

GDS C-15.2, "Mueller Welding Line Stopper Fittings H-17055, H-17056, H-17155, and H-17156"

GDS C-15.3, "Mueller Welding Line Stopper Fittings H-17255, H-17256, H-17257, H-17275, H-17276, and H 17277"

GDS C-16.1, "Mueller Extension Stopper Fitting for Lateral Connections"

GDS C-16.2, "Mueller Welding Line Stopper Fittings with Bottom Connection"

GDS C-16.3, "Mueller H-17190 Welding Line Stopper Fitting"

GDS C-16.4, "Mueller H-17191 Mechanical Joint Line Stopper Fitting"

GDS C-16.5, "Mueller Extension Stopper Fitting for Lateral Connection"

GDS C-63, "T.D. Williamson M-Stopp Fitting (Mueller Compatible)"

GDS C-64.1, "TDW Shortstopp II: 6"—12" Fitting"

GDS F-80, "Meter Valves"

GDS F-90, "Polyethylene (PE) Valves"

GDS J-50, "Meter Swivels and Swivel Nuts"

GDS J-52.1, "Gas Meter Manifolds (1-1/4" and 2" Sizes)"

GDS O-23, "Insulated Threaded Unions"

Appendices

NA

Attachments

NA

Revision Notes

Revision 4a has the following changes:

1. Table 1: Deleted cast iron material; extension stopper fittings; KWH as approved manufacturer for the PE Pipe & Tubing material group; and Chicago Fittings from the Risers, Pre-Fabricated Gas Service, and Riser Kits material group.
2. Table 1: Added JM Eagle (Tulsa, OK), Plasson (Ma'agan Michael, Israel), Innogaz (Goa, India and Mannheim, Germany), and Central Plastics (Shawnee, OK) to the PE System Accessories group; Benteler to the <2" Diameter Steel Seamless Pipe group; TDW to the Steel Two-Piece Line Stopper Fittings group.
3. Table 1: Minor clarifications.

Revision 4, published 06/19/2019 and effective 09/18/2019, has the following changes:

1. Purpose and Scope section revised to limit scope to a partial list of approved manufacturers for inclusion in the Green Book.
2. Removed Notes 1 and 4 from General Information section, adding new Note 3 highlighting that the SAP QSL is now the complete list of Company-approved manufacturers and revising original notes (now Notes 1 and 2).
3. Deleted items not typically applicable to applicant work from Table 1.

Asset Type: Gas Transmission and Compression

Function: Design

Document Contact: [Gas Design Standard Responsibility List](#)