

OMEGAFLEX, INC. *TracPipe*® Flexible Gas Piping Specification Sheet

Specification date _____

Project Name: _____

Model Number(s) - FGP-SS4-2000 FGP-SS4-1500 FGP-SS4-1250
FGP-SS4-1000 FGP-SS4-750 FGP-SS4-500 FGP-SS4-375

A. Standards & Certifications

All flexible gas piping system components must be:

A.1 CSA International Certified Corrugated Stainless Steel Tubing (CSST) Flexible Gas Piping with Mechanical Attachment **AutoFlare**® Fittings that conform to the latest ANSI standards for safe performance ANSI/CSA LC-1. CSA International is the former I.A.S. and C.G.A certifying agency.

A.2 Underwriters Laboratories Classification Listed for Thru Penetration Fire Stop Requirements Ratings to include one, two, three and four hour tests.

A.3 Listed with FM (Factory Mutual) requirements for Flammable Gas Piping Systems.

B. Stainless Steel Tubing

B.1 Tubing shall be made from 300 series Stainless Steel Strip conforming to ASTM A240.

B.2 Tubing shall not be subjected to heat treating or annealing after the corrugation forming operation.

B.3 Tubing shall be suitable for operation with Natural Gas and LP Gas (Propane).

B.4 Tubing is rated for 5-PSI and 25-PSI.

B.5 Tubing must have elevated pressure ratings of 125G for sizes up to 1-1/4 inches and 25G for 1-1/2 and 2-inch sizes for high-pressure applications permitted by the Local Distribution Utility. These elevated pressure ratings shall be demonstrated by test reports from the certification agency.

C. Plastic Jacket

C.1 The jacket shall be extruded from fire-retarded Polyethylene.

C.2 Chlorinated plastics such as PVC are not permitted.

C.3 ASTM E-84 flame spread rating shall not exceed 25.

C.4 ASTM E-84 smoke density rating shall not exceed 50.

C.5 Polyethylene is to be resistant to UV.

D. **AutoFlare** (Patented) Mechanical Attachment Fittings

D.1 Fittings shall be made from yellow brass.

D.2 Fittings shall be equipped with a stainless steel insert to pilot on the tubing ID and provide a reliable flaring operation.

D.3 AutoFlare fittings are tested and listed by CSA International for concealed use where required for connection to appliances, valves and for branch lines off of concealed piping trunk lines.

D.4 AutoFlare fittings are available in straight, straight reducer, tee, reducer tee and coupling configurations.

E. Protective Devices

E.1 Striker Plates

E.1 A Striker plates shall be listed as part of the OMEGAFLEX, INC. TracPipe system and shall be marked with the symbol of the Manufacturer (OMEGAFLEX, INC.) and the listing Agency (CSA International).

E. 1 B Striker plates shall be made from carbon steel, heat-treated to RB40.

E. 1 C Striker Plates are available in Quarter, Half, Full and 6 X 17 Configurations.

E.2 Floppy Conduit

E.2 A Floppy conduit used for additional protection with striker plates (type RW electrical conduit) is to be made from galvanized steel.

F. Accessories

F.1 Termination Mount Fittings are to be used to provide a secure termination for TracPipe tubing at moveable appliance locations and other "stub-out" points depending on building construction. Termination mount accessories consist of a plated carbon steel plate or malleable iron mounting component and an AutoFlare fitting. Fittings at termination mounts must be accessible and provide a fitting joint exterior to the wall cavity.

F.2 Meter Termination Fittings may be used for exterior wall penetrations at meter locations and other penetrations such as roof top units. Meter termination consists of a plated carbon steel mounting plate and sleeve and an AutoFlare fitting. Fittings at meter termination outlets must be accessible and provide a fitting joint exterior to the wall cavity.

F.3 Manifolds are made from malleable iron either plastic-coated or uncoated. Manifolds may be mounted using available manifold brackets or Gas Load Centers; they may alternatively be mounted using conventional pipe mounting methods.

F.4 Pounds-to-inches line pressure regulators are available in three sizes

-REG 3: ½ inch threads,

-REG 5A: ¾ inch threads and

-REG 7: 1-1/4 inch threads.

Regulators shall be listed per ANSI Z21.80 or a recognized national standard for pressure regulators.. Regulators must be mounted in an accessible location.

F.4.1 Regulators with included approved vent-limiting device (REG 3 and REG 5A) do not require venting to atmosphere provided they are mounted in a ventilated location (e.g. near a gas appliance which also requires placement in a ventilated area). Ventilated locations include (but are not limited to) mechanical rooms, attics, garages, and basements.

F.4.2 Approved vent limiters limit the fuel gas leakage to 2.5 cc per hour in the event of a diaphragm failure.

F.5 Shut-off valves must be approved for fuel gas service and must be rated for the pressure of the gas piping system installed. For elevated pressure sections an approved valve must be located upstream from the pounds-to-inches regulator.

F.6 Overpressure protection devices must be installed for elevated systems higher than 2-PSI and up to 5-PSI to prevent downstream pressure from exceeding 2-PSI in the event of regulator failure.

G. Underground and Under Building Slab Installations

TracPipe PS

Model Number(s) - FGP-UG-375 FGP-UG-500 FGP-UG-750
 FGP-UG-100 FGP-UG-125 FGP-UG-150 FGP-UG-200

TracPipe PS-II

Model Number(s) - FGP-UGP-375 FGP-UGP-500 FGP-UGP-750
 FGP-UGP-100 FGP-UGP-125 FGP-UGP-150 FGP-UGP-200

G.1 TracPipe underground and under building slab installations shall be made using pre-sleeved TracPipePS (patented) or TracPipePS-II (patent pending) systems or other sleeve configurations meeting code requirements and acceptable to the local administrative authority.

G.2 TracPipePS shall consist of TracPipe CSST sleeved with polyethylene conduit covering all portions of the gas piping system located underground. Heat-shrink tubing with heat-activated adhesive shall be used to seal off the space between the gas pipe and the protective sleeve. Heat shrink sleeve shall be DSG-Canusa Type CFW with thermoplastic adhesive liner or equal.

G.3 TracPipePS-II shall consist of TracPipe CSST sleeved with a black integral polyethylene sleeve. The external polyethylene sleeve shall be designed to withstand the superimposed loads. The external protective sleeve shall have internal vent channels lengthwise to direct any leakage along the pipe to the TracPipePS-II fittings. Fittings shall consist of AutoFlare fittings with a plastic containment coupling and ¼" NPT vent port, to seal off the space between the gas pipe and the protective sleeve.

G.4 For gas piping under building slabs, Plumbing, Mechanical and Fuel Gas Code requirements shall be followed for encasement within a conduit and venting to the atmosphere. The construction of TracPipe PS and TracPipe PS-II provide the encasement and venting capabilities required by the codes.

G.5 Flexible Poly Sleeve may be used. Part number FGP-UGFX-size is available for use with TracPipePS to facilitate 90-degree bends for the transition from below ground to above ground. Heat-shrink tubing and barbed couplings shall be used to make the transition from the polyethylene tubing to the flexible poly sleeve.

G.6 Underground couplings (part number FGP-UGC-size) may be used with TracPipePS-II system to facilitate splices underground. All metallic parts of the fitting shall be wrapped in a code-approved manner (e.g. mastic used for wrapping metallic pipe).

Superimposed Loading Chart

TracPipe PS/PS-II Size	3/8	1/2	3/4	1	1- 1/4	1-1/2	2
Max. Superimposed Loading <i>psf</i>	9640	7254	5409	4203	3390	2901	2124

Notes: 1. Super-imposed loading includes all dead load and live load combinations.

2. Maximum buried depth of 36" ; 3. Soil Density : 120 pcf: 4. Factor of safety used: 4.

H. Protection for Gas Piping Systems in High Lightning Strike Regions

TracPipe CounterStrike

Model Number(s)	FGP-CS-375	FGP-CS-500	FGP-CS-750
FGP-CS-100	FGP-CS-125	FGP-CS-150	FGP-CS-200

H.1 Primary protection from lightning near strikes for all metallic systems within a building is recommended to be provided by proper grounding of the electrical system and equipotential bonding of all metallic systems including the gas piping system. Grounding and bonding shall be in accordance with the National Electrical Code ANSI/NFPA 70.

H.2 The installation of a lightning protection system per NFPA 780 is recommended in areas prone to a high level of lightning strikes to protect the building in the event of a direct strike.

H.3 CounterStrike shall consist of TracPipe stainless steel pressure liner and an engineered polymer jacket. The jacket shall be designed to enhance the energy dissipating properties of the flexible gas piping. CounterStrike shall be tested by a recognized lightning laboratory. In lightning prone areas, Counterstrike is recommended for an additional level of gas piping system protection from indirect strikes.

H.4 The use of CounterStrike shall be coupled with equipotential bonding of the gas piping system and all other metallic systems to the grounding electrode in accordance with NEC Section 250.104. The bonding jumper should be sized in accordance with NEC Table 250.66.

H.5 Wherever possible, TracPipe and CounterStrike CSST runs should be installed with a bend radius of 8 inches or more.

H.6 For additional protection, TracPipe PS-II may be used for the trunk line running from the meter to a central location within the building.