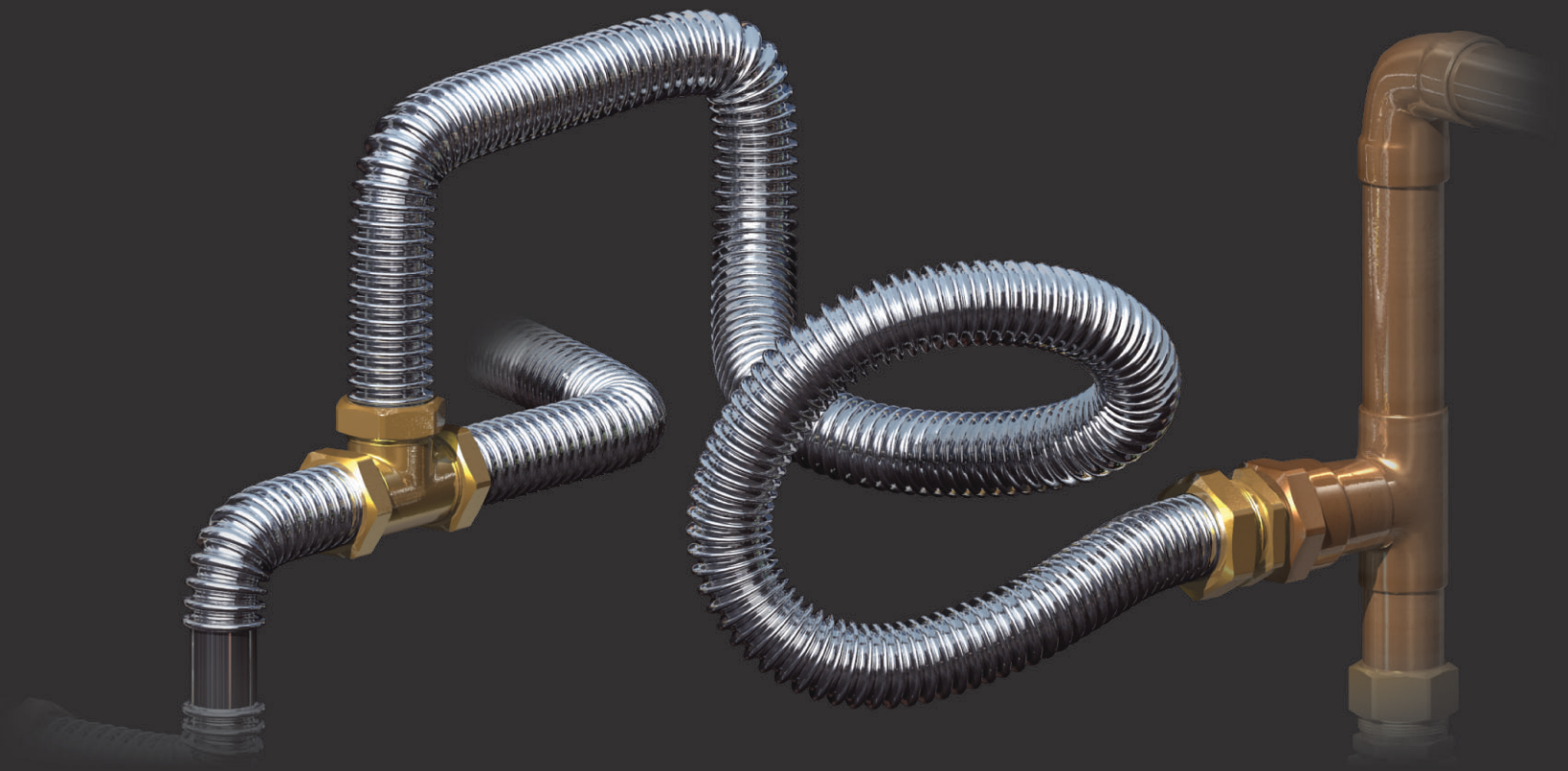
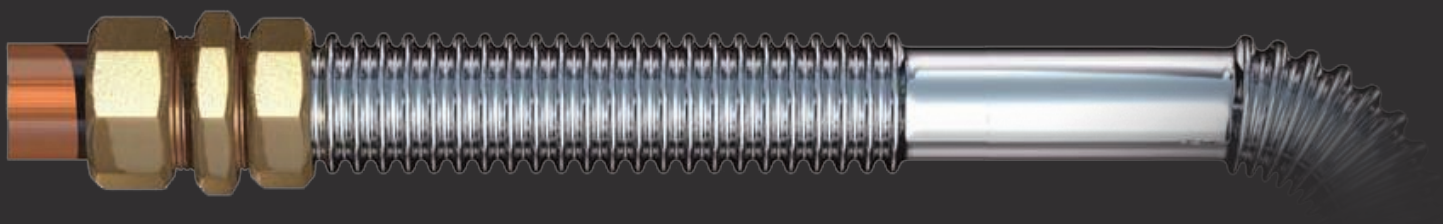
EASYFLEX®



WATER LINE SYSTEM

Flexible Corrugated Stainless Steel Tubing



Originally utilized to protect from earthquake damage, corrugated stainless steel pipes by design and material are able to withstand vibrations, wide fluctuations in temperature, and various other harsh environmental conditions.

Flexible lines are rapidly replacing rigid pipes in new construction because of its flexibility and cost saving installations. They are widely used to retrofit in tenant improvement projects.

The greatest advantage of using flexible lines in place of rigid piping is the incredible time saving benefits in installation. Rather than cutting the tube to exact length and making 90° connections with bulky fittings every time you need a bend, flexible lines offer the ease of simply bending the tubing without any extra connections.

In addition to the flexible benefits of the corrugated design, the inner diameter of our tubing is larger than the inner diameter of rigid piping for uncompromising flow restriction and optimal performance.

It's a hassle-free, simple, and easy installation of one seamless line for an entire system.

Why should you choose EASYFLEX?

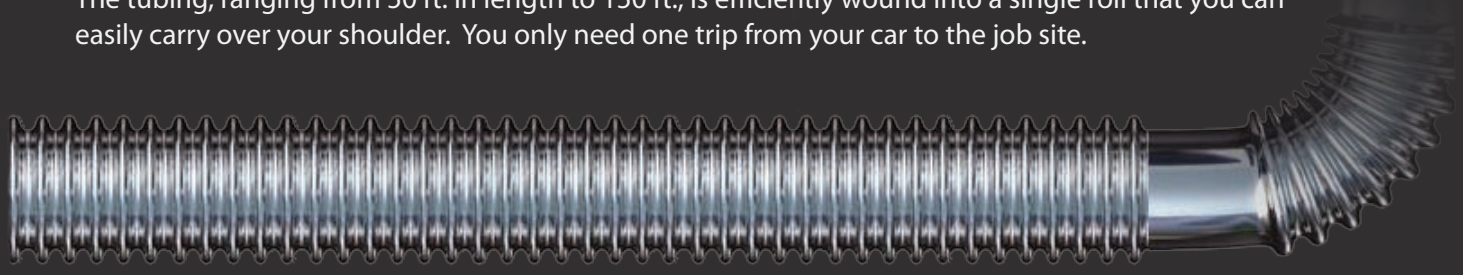
It's easy.
Can you imagine installing an entire water line system with just one connection at each end? You don't have to imagine. No more mid-line connections, cuts, angles, and bulky fittings, just one clean line that gives you the freedom to make bends—by hand—wherever and whenever you need it.

It's fast.
It's perhaps the greatest advantage of using Easyflex flexible CSST. By eliminating all the countless steps measuring and cutting to account for those rigid 90° angles, you save valuable time on installation.

It's durable.
Stainless steel 304 is strong, corrosion-resistant, and withstands natural wear and tear better over time than rigid piping alternatives. When it comes to the lifespan of the material, there's no comparison to stainless steel.

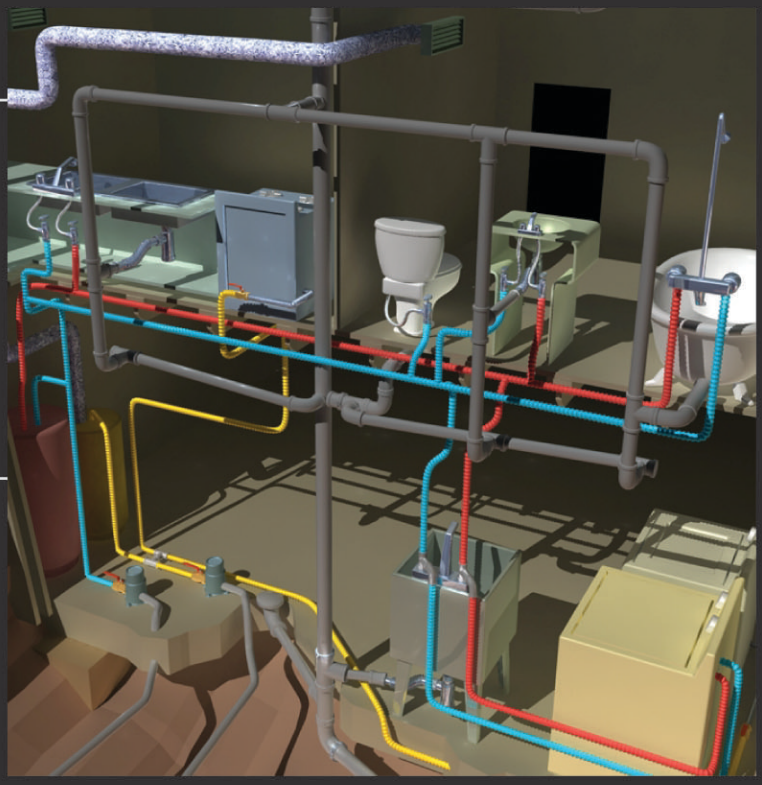
It's flexible.
Annular corrugations of the tubing create flexibility by working with the strength of the stainless steel.

It's lightweight.
The tubing, ranging from 50 ft. in length to 150 ft., is efficiently wound into a single roll that you can easily carry over your shoulder. You only need one trip from your car to the job site.



APPLICATIONS

- General Plumbing
- Water Distribution Systems
- Water Heating Systems
- Tankless Water Heating
- Heat Exchanger
- Fan Coil Units



ADVANTAGES

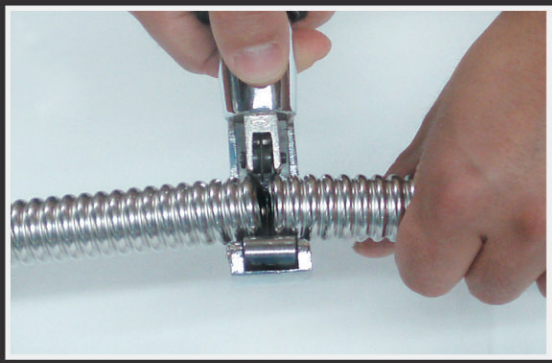
- Flexible
- Lightweight
- Pure and non-toxic
- Corrosion resistant
- Biostatic
- Easy installation

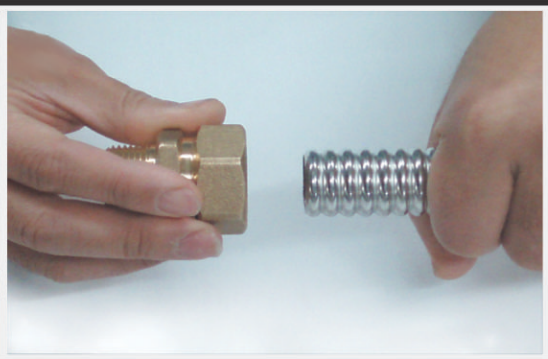
INSTALLATION

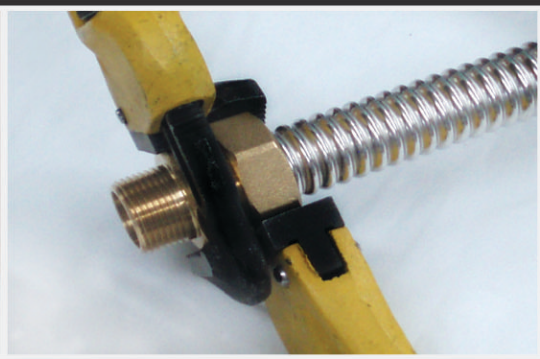
Required Tools	Optional Tools
Metal tube cutter	Open end wrench *(for assembly of fittings)*
Utility knife *(for PE coated tubing)*	Pipe wrench *(connection of tubing to fittings)*
PTFE tape or pipe sealant *(fitting to another fitting, main line, or fixed position fitting)*	Pliers
	Gloves

Be careful when handling edges of tubing. Edges, particularly cut edges, are sharp.
Please see full installation instructions before assembling product.

Tube Size (ID)	Torque Value (ft/lb)
1/2″	40~44
3/4″	44~48
1″	72~76
1-1/4″	120~140







1 CUT

Determine the proper length of tubing needed and cut to desired length. Cut a straight section that has not been bent.

Cut must be a clean cut.
A rough cut can perforate the silicone ring and cause leakage.

2 CONNECT

Remove nut and check the internal components. Replace loosened nut and insert tube completely into fitting until it meets interal wall (about 4-5 corrugations into the fitting).

Do NOT use PTFE tape or sealant
between pipe-to-nut connections.

3 TIGHTEN

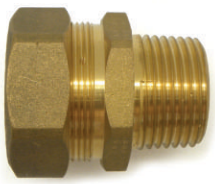
Tighten the nut and fitting using appropriate torque (see table above). If done properly, resistance should increase greatly or nut will not turn after 1.5 turns.

If tubing buckles or deforms,
excessive torque has been applied.

PARTS LIST

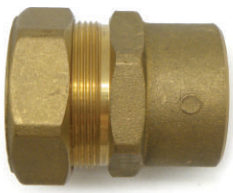
Straight Male

EFW-012-ST	1/2" MIP
EFW-034-ST	3/4" MIP
EFW-010-ST	1" MIP
EFW-114-ST	1-1/4" MIP



Straight Female

EFW-012-SF	1/2" FIP
EFW-034-SF	3/4" FIP
EFW-010-SF	1" FIP
EFW-114-SF	1-1/4" FIP



Elbow

EFW-012-EL	1/2" Elbow
EFW-034-EL	3/4" Elbow
EFW-010-EL	1" Elbow

Tee

EFW-012-T	1/2" Tee
EFW-034-T	3/4" Tee
EFW-010-T	1" Tee

Female Tee

EFW-012-FT	1/2" Female Tee
EFW-034-FT	3/4" Female Tee
EFW-010-FT	1" Female Tee

Tee Reducing

EFW-034-RT-012	3/4"x3/4"x1/2"
EFW-010-RT-012	1"x1"x1/2"
EFW-010-RT-034	1"x1"x3/4"

Female Tee Reducing

EFW-034-FRT-012	3/4"x1/2"
EFW-010-FRT-012	1"x1/2"
EFW-010-FRT-034	1"x3/4"

Coupling/Union

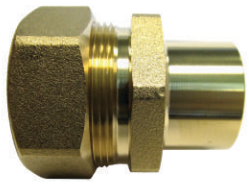
EFW-012-CP	1/2" Coupling
EFW-034-CP	3/4" Coupling
EFW-010-CP	1" Coupling
EFW-114-CP	1-1/4" Coupling

Reducing Coupling

EFW-034-RCP-012	3/4" x 1/2"
EFW-010-RCP-012	1" x 1/2"
EFW-010-RCP-034	1" x 3/4"

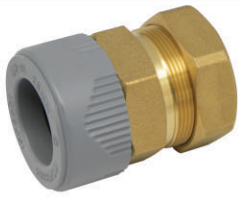
Copper Sweat

EFW-012-SW	1/2" Sweat Adaptor
EFW-034-SW	3/4" Sweat Adaptor
EFW-010-SW	1" Sweat Adaptor
EFW-114-SW	1-1/4" Sweat Adaptor



Push-Fit

EFW-012-EC-CP	1/2" Push-fit
EFW-034-EC-CP	3/4" Push-fit
EFW-010-EC-CP	1" Push-fit



High-Temp Gasket

EW-HG-012	1/2" Gasket
EW-HG-034	3/4" Gasket
EW-HG-010	1" Gasket
EW-HG-114	1-1/4" Gasket

Tubing Saddles

EW-WB-012	1/2" Saddle
EW-WB-034	3/4" Saddle
EW-WB-010	1" Saddle

Flexible Corrugated Stainless Steel Tubing

1/2" ID (3/4" OD)

EW-012-	50	(50' CSST)	BL (Blue PE Jacket)
	100	(100' CSST)	RD (Red PE Jacket)
	150	(150' CSST)	

3/4" ID (1" OD)

EW-034-	50	(50' CSST)	BL (Blue PE Jacket)
	100	(100' CSST)	RD (Red PE Jacket)
	150	(150' CSST)	

1" ID (1-1/4" OD)

EW-010-	50	(50' CSST)	BL (Blue PE Jacket)
	100	(100' CSST)	RD (Red PE Jacket)
	150	(150' CSST)	

1-1/4" ID (1-1/2" OD)

EW-114-	50	(50' CSST)	BL (Blue PE Jacket)
	100	(100' CSST)	RD (Red PE Jacket)
	150	(150' CSST)	

TUBING

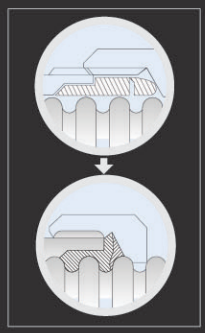
CSST Material:	Stainless Steel 304 (ASTM A 240)
Coating (Optional):	Polyethylene (ASTM D 335)
Types:	Uncoated, Blue PE, and Red PE
Sizes (Inner Diameter):	1/2″ (0.55 in) | 3/4″ (0.83 in) | 1″ (1.03 in) | 1-1/4″ (1.26 in)
CSST Thickness:	0.012″
PE Coating Thickness:	0.02″
Lengths:	50 ft. | 100 ft. | 150 ft. | Customs lengths available
Burst Pressure:	588 psi with fittings attached
Velocity:	8 fps
Maximum Working Temperature:	212°F @ 147 psi
Maximum Working Pressure:	1/2″: 220 psi | 3/4″: 176 | 1″: 147 psi

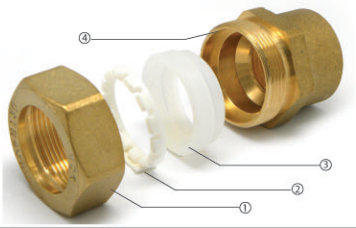
Minimum Bend Radius	
Size	Recommended Min.
1/2″	3 inches
3/4″	3 inches
1″	5 inches

Surface Area		
Size	Surface Area per ft (in^2)	Volume per ft (ft^3)
1/2″	32.7	0.00306
3/4″	48.0	0.00672
1″	64.8	0.01145
1-1/4″	72.3	0.01499

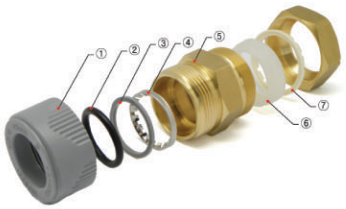
FITTINGS

Fitting Nut & Body:	Brass UNS C37700 (ASTM DS-561)
Sealing Ring:	Silicone
Isolation Ring:	Nylon 66
Push-Fit Fitting Body:	Brass UNS C37700 (ASTM DS-561)
Push-Fit Sealing Ring:	EPDM
Push-Fit Isolation Ring:	Nylon 66
Push-Fit Nut:	Nylon 66
Push-Fit Grab Ring:	Stainless Steel 304
Burst Pressure:	1420 psi





1. Fitting Nut
2. Isolation Ring
3. Sealing Ring
4. Fitting Body



1. Push-Fit Nut
2. Push-Fit Sealing Ring
3. Push-Fit Isolation Ring
4. Push-Fit Grab Ring
5. Fitting Body
6. Sealing Ring
7. Isolation Ring

FRICTION LOSS DATA

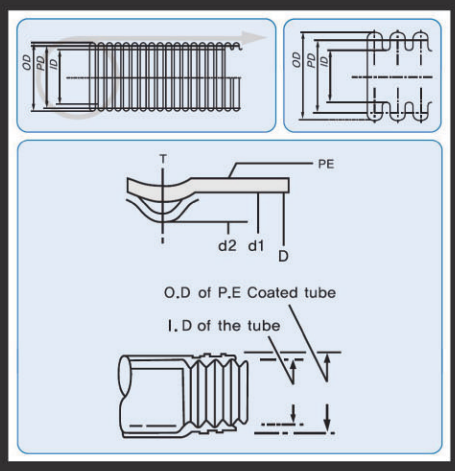
Friction loss of tubing calculated in pounds per square inch (PSI) of pressure lost per foot of tubing with a friction constant = 70 and no bends. Sharp bends are calculated the same as for fittings and gradual bends calculated the same as straight pipe.

	Nominal Size (ID)			
GPM	1/2″	3/4″	1″	1-1/4″
1	0.032	0.004	0.002	0.001
2	0.114	0.015	0.005	0.002
3	0.241	0.032	0.012	0.004
4	0.41	0.055	0.02	0.008
5	0.619	0.083	0.03	0.011
6	0.867	0.117	0.042	0.016
7	1.153	0.153	0.055	0.021
8	1.476	0.199	0.071	0.027
9	1.836	0.248	0.088	0.034
10	2.231	0.301	0.107	0.041

1. Table is based on the *Hazen-Williams formula.
2. Fluid velocities in excess of 5-8 ft/sec are not recommended.
3. Friction loss values shown are for the flow rates that do not exceed a velocity of 8 ft/sec.

$$*P = \frac{4.52Q^{1.85}}{C^{1.85}D^{4.87}}$$

Where: P = friction loss, psi per linear foot
Q = flow, gpm
D = average, I.D., in inches
C = 70, friction constant



PRODUCT STANDARDS AND LISTINGS

NSF / ANSI 61	Drinking Water System Components - Health Effects. Tested and certified by IAPMO.
ASTM A 240	Specification for Chromium and Chromium-Nickel stainless steel plate, sheet, and strip for pressure vessels and for general applications.
ASTM D 335	Specifications for Polyethylene plastic pipe and fittings materials.
ASTM DS-561	Metals and alloys in the unified numbering system.
ASME B1.20.1	NPT pipe threads, general purpose.
IAPMO IGC-233	1. Materials 2. Performance 3. Marking and Identification

TESTING

Hydrostatic Test	Filled with water and internal pressure incured to 220 ± 7 psi, at a temperature of 68°F ± 5°F for a period of 5 minutes.
Hydrostatic Burst Test	At 68°F filled with water and the internal pressure increased to 588 ± 7 psi, at a temperature of 68°F ± 5°F for a period of 5 minutes.
Bending Test	Bending motion being applied uniformly at the rate of 5-6 cycles per minute.
Hydraulic Shock Test	Subjected to a hydraulic shock for 2,000 cycles at 68°F ± 5°F.
Vibration Test	Filled with water. The amplitude of vibration was 0.2 inches and the frequency was 25 Hz for 3 hours.
Flattening Test	Pressed to 2/3 D height of the outer diameter until the tube was flat.
Impact Test	An impact force was applied of 9.76 to 15.19 lb/ft to varied sizes of fittings using a hammer.
Pressure Test	Pressure rating at 212°F of 147 psi.
Toxicity Test	Water outflow was tested in hot and cold conditions with a PH range of 5-10.

EASYFLEX®

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