



AMBEST'S FLEXILINE® PIPING SYSTEM Main Features

Ambest's Flexiline product range provides a complete flexible underground pipework system specially designed for use in service stations for the transfer of liquid fuels. It is a non-metallic system manufactured from polyethylene and is available in a range of sizes from 50 mm up to 110 mm outside diameter for primary applications. The Flexiline system is equally suitable for suction or pressure systems and can therefore satisfy all requirements for a service station installation including suction vapor recovery, vent and remote fill lines. Secondary containment piping is available for use mainly in pressure systems and where special risks are shown to require this additional protection.



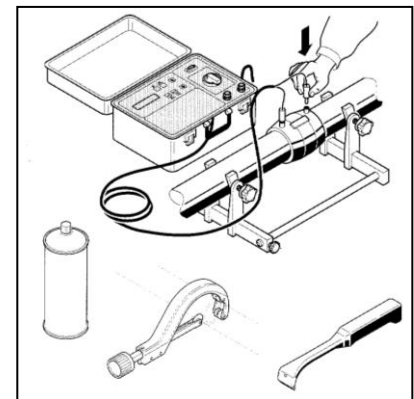
The smooth bore of the pipes, electrofusion welding joints and range of pipe sizes and fittings make Flexiline an extremely versatile system having many advantages over alternative systems:

- Faster, easier and therefore less costly to install.
- Maintenance free design life.
- Corrosion resistant.
- Suitable both for new installations and modifications to existing sites.
- Electro fused jointing ensures a permanently leak tight system which retains its full working and test pressure characteristics.
- Flexibility allowing for tank or ground movement without detriment to the system.
- Extremely lower friction losses.

PRODUCT RANGE

Ambest's Flexiline product range comprises:

- Lined Product Pipe-TR Series, for suction and pressure systems in direct burial applications.
- Double Wall Lined Product Pipe-TRD Series, for use specifically in pressure systems and where special risks are shown to require this additional protection.
- HDPE Pipe-TNR Series, for suction vapour recovery, vent and remote fill lines.
- Electrofusion Adaptors, male and female, for electroweldable transitions between plastic and metallic piping
- Mechanical transition fittings that clamp to the outer surface of the plastic pipe by means of compression rings or olives.
- Electrofusion fittings, couplers, elbows, tees and reducers, from HDPE are available for all sizes of pipes between 50 and 110 mm diameter.
- Studded Flange Flexible Entry Boots-BFE Series, Integral Entry & Test Studded Bulkhead-CEP Series and Test Boots-Series MCV y MSV are available for the full range of pipes and are used where pipes pass through sump walls and for interstitial integrity testing.
- Complete set of tools, electrofusion welding machine and installation instruction manual.





Lined Product Pipe TR Series

The lined product pipe is the primary piping for conveying liquid petroleum products, alcohols, and alcohol-gasoline mixtures underground. The key substance employed in the manufacturing of the lined product pipe is high-density polyethylene (HDPE) which, apart from its working benefits to the user, is a cost-effective solution. The polymer film on the internal surface of the lined product pipe protects it from vapor induced effects such as swelling and chemical degradation giving also excellent resistance to wear and high resilience. The combination of these factors creates exceptional long-term resistance to pressure. In addition the liner acts as a real barrier and reduces permeability to practically zero.



The lined product pipe can be used both as the carrier in double wall pressurized lines or as a direct bury pipe with electrofusion joints in suction systems.

Availability:

- ❑ Code N° TR50 Nominal Size 1½"; OD 50mm - Coils up to 100m
- ❑ Code N° TR63 Nominal Size 2"; OD 63mm - Coils up to 100m

Double Wall Lined Product Pipe TRD Series

To satisfy the environmental concerns with accidental fuel losses, additional security can be provided by using secondary containment pipe. The double wall co-axial pipe combines the integrity and flexibility of the TR Series lined product pipe - which allows for joint free fuel lines - with a robust close fit polyethylene outer sheathing. The secondary external pipe not only protects the product carrier against accidental damage but provides as well an interstitial space that can be monitored for leak detection. A range of closure fittings, namely test boots or flexible entry and test boots, are supplied to facilitate interstitial tightness test.



Available sizes:

Code No. TRD5063R..50 mm x 63mm.....Carrier O.D 50 mm (1.5"); Secondary O.D.63 mm (2")

Code No. TRD6375R..63mm x75mm.....Carrier O.D 63 mm (2"); Secondary O.D. 75 mm (2,5")

Supplied in **coils up to 50m continuous length.**



HDPE Pipe TNR Series

HDPE pipe is manufactured using an extrusion process which produces a very smooth surface finish; this is particularly important in the bore as it helps reduce the fluid friction head losses to a minimum.

Specifications: Material HDPE-HMW, SDR11, PN 12,5. Color: black with 4 yellow stripes.

The pipe is supplied as follows:

- Code No. TNR63 -----O.D. 63 mm -----100 m coils
- Code No. TNR90 -----O.D. 90 mm -----100 m coils
- Code No. TNR110 ----O.D. 110 mm----5.8 m bars

All lengths can be electrofusion welded on site to provide continuous runs of pipework.



Electrofusion transition Adapter AS Series

This adapter provides a smooth transition from plastic to metal. While the threaded end screws to a steel pipe or a metallic pipe fitting, the plastic spigot at the other end may be welded to a polyethylene pipe using different types of electrofusion fittings as per DIN 8075. This fitting uses a combination of elastomeric seals and significant interferences to ensure a leak-free design. The joint, designed to be stronger than the polyethylene pipe, exceeds pullout requirements.

Materials of construction: Body and expansion sleeve: galvanized carbon steel; Plastic adapter: HDPE; O-Rings: NBR

Available Sizes - Ambest's electrofusion transition adapters are available in standard pipe sizes from 1½" x 50mm to 4" x 110mm, as follows:

Male Thread

- Electrofusion Transition Adapter Male 110 mm X 4" -----Code No ACM-1104
- Electrofusion Transition Adapter Male 90 mm X 3" -----Code No ACM-903
- Electrofusion Transition Adapter Male 63 mm X 2" -----Code No ACM632
- Electrofusion Transition Adapter Male 50mm X 1½"-----Code No ACM-50112WB

Female Thread

- Electrofusion Transition Adapter Female 63 mm X 2"----- Code No ACH632





Mechanical Pipe Fittings

CM & AM Series

Compression fittings are popular because they are comparatively quick and easy to use. They require no special tools or skills to operate. Compression fittings are especially useful in situations where a heat source is prohibited.

As the name implies, compression fittings form a tight seal by applying a compressive force to the pipe. A component of the fitting, a) metallic or b) elastomeric, is compressed against the pipe with a force sufficient to eliminate all space remaining in the joint, thus preventing fluid from leaking.

In the a) case the compression fitting is composed of an outer compression nut and an inner ring called a "ferrule" or "olive" which is made of brass .

When the nut is tightened, it clamps-down on the ferrule, causing it to conform to the circumference of the pipe. A product of this type is:



Mechanical brass compression adaptor male 1½" x 50mm -----Code CMM-50110.

Mechanical brass compression adaptor male 2" x 63mm -----Code CMM-632

In the b) instance, the compression fitting is composed of an outer compression nut, a split ring, a plain washer and an O ring seal. When the nut is tightened it closes the split ring that grips on the circumference of the pipe preventing axial displacement; simultaneously it axially pushes the plain washer which in turn compresses the O ring deforming it against the pipe wall and producing the desired sealing effect. Products utilizing this design are:

Mechanical brass compression adaptor male 1½" x 50mm -----Code AMM-50110

Mechanical brass compression adaptor male 3" x 90mm -----Code CMM-903. Normally used in remote fill lines





Electrofusion Fittings

Ambest S.A. provides a total solution for fusion jointing of polyethylene pipe with a complete range of electrofusion fittings and equipment. Through the controlled application of heat, pipe and fittings can be fused together to form an irreversible join of high integrity.

ElectroFusion fittings are specifically conceived for reliable, high performance pipe joining and long system life . Main attributes are:

- Heating coils designed for optimal heat transfer,
- Large insertion depth,
- Wide fusion zones plus cold zones at the end and in the middle to prevent the flow of molten material
- Fusion indicators for visual fusion control
- For use with holding devices.

Electrofusion Straight Connectors (Couplers) Series

- Nominal size 50mm.....Code CUEF50
- Nominal size 63mm.....Code CUEF63
- Nominal size 90mm.....Code CUEF90
- Nominal size 110mm....Code CUEF110



CUEF

Electrofusion Reducers Series

- Nominal size 90 mm x 60mm....Code REEF50



REEF

Electrofusion 90° Elbows Series

- Nominal size 50mm.....Code COEF50
- Nominal size 63mm.....Code COEF63
- Nominal size 90mm.....Code COEF90
- Nominal size 110mm....Code COEF110



COEF

Electrofusion 45° Elbows Series

- Nominal size 50mm.....Code 45EF50
- Nominal size 63mm.....Code 45EF63
- Nominal size 90mm.....Code 45EF90
- Nominal size 110mm....Code 45EF110



45EF



Electrofusión Tees

Series

- Nominal size 50mm....Code TEEF50
- Nominal size 63mm....Code TEEF63
- Nominal size 90mm....Code TEEF90
- Nominal size 110mm....Code TEEF110



TEEF

Studded Flange Flexible Entry Boots

BFE Series

Studded Flex-Flange Entry Fittings are installed in sump walls to seal the entry of fuel pipes, electrical conduits, offset fill pipes and vapor pipes. Studded flange fittings require an entry hole to be cut and a stud pattern to be drilled in the sump wall for installation.

Studded Flange Flexible Entry Boots feature a ribbed sealing surface for added sealing protection, and reinforced plastic parts outside the sump for corrosion resistance. Minimum spacing between nuts ensures consistent sealing forces on uneven sump wall surfaces and a compression steel ring provides added strength and rigidity. In addition, Bolted Flange Entry Boots offer a positive mechanical seal with nuts that pull the fitting body and studded backplate against the outer sump wall. The boots on these fittings are replaceable from inside the sump without excavation.



PRODUCT CODE.....SIZE

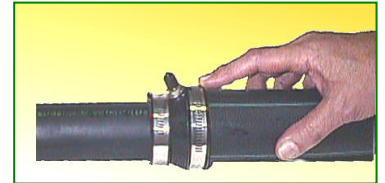
- BFE-075.....3/4"...(28 mm) - For electrical conduit entry
- BFE-100.....1.0"...(33 mm) - For electrical conduit entry
- BFE-150.....1,5"...(50 mm)
- BFE-200.....2.0"...(63 mm)
- BFE-250.....2.5"...(75 mm)
- BFE-300.....3.0"...(90 mm)
- BFE-400.....4.0"...(110 mm)

Construction Materials: Rubber parts: NBR. Backplate: Nylon. Bolts, nuts & clamps: stainless steel AISI 304. Compression ring: Steel galvanized.



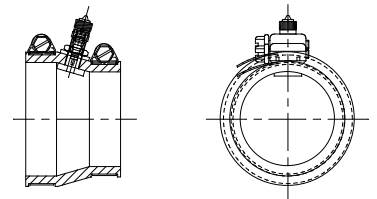
Test Boots Series MCV y MSV

Test Boots are used to isolate and air-test the interstitial space between the primary and secondary pipe. One Test Boot Blind and one Test Boot With Air Valve are required per pipe section. Separate Test Boots are not required when using entry fittings with integral Test Boots.



Sizes Available:

- ❑ Part N° MSV5063.... Test Boot Blind 50x63mm
- ❑ Part N° MCV5063....Test Boot with Air Valve 50x63mm
- ❑ Part N° MSV6375.... Test Boot Blind 63x75mm
- ❑ Part N° MCV6375....Test Boot with Air Valve 63x75mm



Construction Materials: Rubber components: NBR; clamp: stainless steel AISI 304

Integral Entry & Test Studded Bulkhead CEP Series

Integral Entry & Test Studded Bulkheads are installed in sump walls to seal the entry of fuel pipes, offset fill pipes and vapor pipes. Integral Test Boots provided on these fittings isolate the interstitial space between the primary and secondary pipes for air testing. Studded flange fittings require an entry hole to be cut and a stud pattern to be drilled in the sump wall for installation.



Integral Entry & Test Studded Bulkheads feature a ribbed sealing surface for added sealing protection and reinforced plastic parts outside the sump for corrosion resistance. Minimum spacing between nuts ensures consistent sealing forces on uneven sump wall surfaces and a compression steel ring provides added strength and rigidity. In addition, Integral Entry & Test Studded Bulkheads offer a positive mechanical seal with nuts that pull the fitting body and studded backplate against the outer sump wall. The boots on these fittings are replaceable from inside the sump without excavation.

Sizes Available:

- ❑ Part N° CEP-50110-CV....Integral Entry & Test Studded Bulkhead With Air Valve 50X110mm.
- ❑ Part N° CPE-50110-SV....Integral Entry & Test Studded Bulkhead Blind 50x110mm
- ❑ Part N° CEP-63110-CV....Integral Entry & Test Studded Bulkhead With Air Valve 63X110mm.
- ❑ Part N° CPE-63110-SV....Integral Entry & Test Studded Bulkhead Blind 63x110mm
- ❑ Part N° CEP-90110-CV....Integral Entry & Test Studded Bulkhead With Air Valve 90x110mm.
- ❑ Part N° CEP-90110-SV....Integral Entry & Test Studded Bulkhead Blind 90x110mm

Construction Materials: Rubber components: NBR. Backplate: FRP. Clamps: stainless steel AISI 304. Compression ring: steel galvanized.