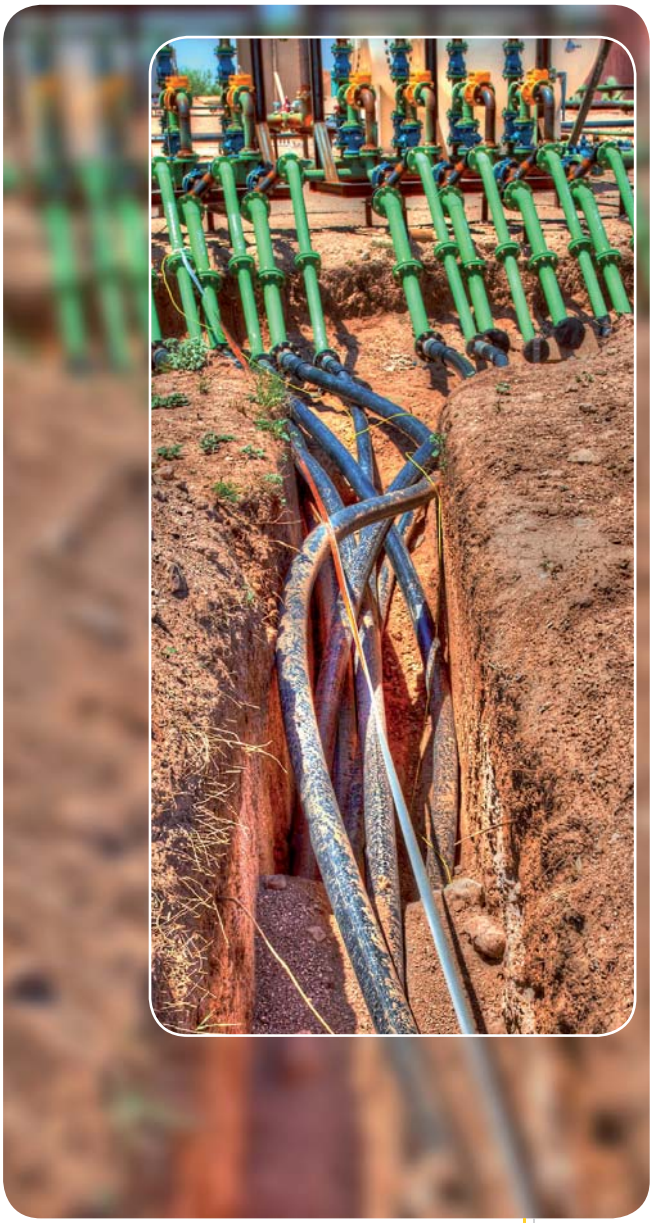
OILTECH

Catalog 2014

Oilfield Pipe and Fittings for the Conveyance of Liquid Hydrocarbons

nupi AMERICAS



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Important Note - Technical Accuracy

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Company

NUPI AMERICAS, Inc. was founded in 2001 in Houston, TX by **NUPIGECO, S.p.A.** as its North American subsidiary for production, sales and marketing activities of its Oiltech, Smartflex, Elofit, Elopress, Elamid and SmartConduit systems. Today, **NUPI AMERICAS** is proud to introduce our Niron Polypropylene piping systems in North America.

Since its founding in 2001, **NUPI AMERICAS** has produced more 20 million feet of pipe. Production has steadily increased with in excess of 4 million feet produced in 2013. Nupi Americas produces Smartflex for the transport of fuels and hazardous fluids (downstream) and Oiltech pipes for the transport of oil (upstream). The production of lined pipe up to 10" combined with a complete system of electrofusion, and butt fusion fittings allows **NUPI AMERICAS** to provide cutting edge solutions to complex technological issues.

NUPI AMERICAS combines high productivity and constant high quality standards while being fully conscious of the environment. The synergy between research, production, quality control and post-sales service allowed the company to obtain many international quality certifications for its product ranges. **NUPI AMERICAS'** market leadership is well maintained thanks to high quality products and the constant attention to our customer's needs and requirements, and by means of an effective team of people in post-sales service, and effective and precise technical assistance and the training of installers.

What is Oiltech

Oiltech Pyping Systems

Oiltech pipes are extruded as an advanced multilayer structure consisting of a base of HDPE piping that is internally lined with a chemically resistant liner and bonded together in unitary fashion using a tie layer. Oiltech pipes can be used in a wider temperature and pressure range than ordinary HDPE and can guarantee better compatibility to chemicals and lower permeation to hydrocarbons. In addition, Oiltech pipes are easy and cost effective to install. Supplied in either coils or straight lengths, they can be handled and assembled in the same manner as conventional HDPE pipes using electrofusion.

Oiltech pipes can effectively replace steel in high & low temperature pressure applications, instead of more expensive unitary layer alternatives that make use of expensive engineering thermoplastics or piping system made of Reinforced Thermoplastic Piping (RTP).

Oiltech is specifically engineered for conveying hydrocarbons in aggressive environments (e.g. H_2S, CO_2) where chemical resistance limits the use of conventional plastics as a unitary piping system for hydrocarbon applications due to permeability and compatibility concerns.

The use of Oiltech multilayer pipes extruded with an integral lining is an attractive method of protecting the conventional bulk polymer, e.g. HDPE, from the effects of hydrocarbons and chemical attack.

With metal pipes, corrosion is one of the major problems to cope with. In cases where the transported fluid is both hot and high in salt, H_2S, CO_2, and dissolved O_2, the lifetime of a carbon steel pipe can be measured in months, even with an aggressive corrosion inhibition program. Such programs can cost more than $100,000 per year for even a very limited amount of piping.

Multilayer thermoplastic pipes are the ideal solution for high & low temperature pressure application and also for lining and rehabilitation of existing pipelines.

Products features & benefits

- Light Weight
- Pipe Flexibility – Coils or Straight Lengths
- Extreme ID Wall Smoothness throughout its service life
- Corrosion Resistant
- Abrasion Resistant
- Excellent against Paraffin and Scale Build-Up
- Easy and fast Installation and Repair
- GPS Locator system

Multilayer structure

Outer Layer in HDPE > Provides Mechanical Strength and Outer Chemical Protection
Inner Layer in Modified Polyamide > Provides Chemical Resistance and Permeation Barrier
Tie Layer > Binds Together Inner and Outer Layer

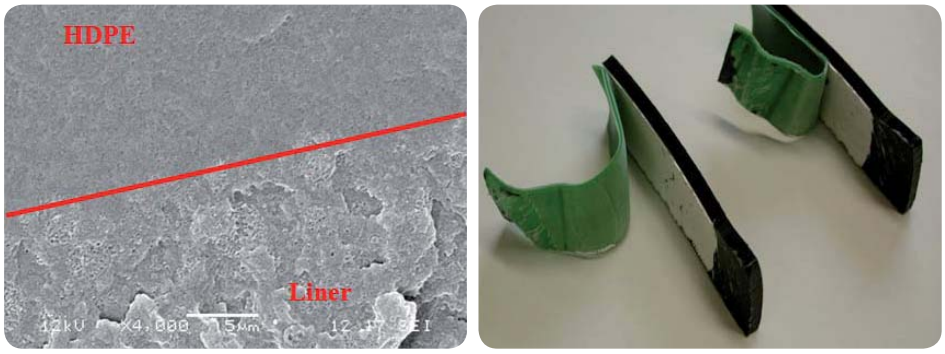
Multilayer technology

A proper choice of materials, liner and bulk, may result in outstanding properties for applications as diverse as petroleum extraction, conveyance of automotive fuels and wastes and hazardous fluids treatment. Co-extrusion technology can be tuned according to real needs with a remarkable cost/performance ratio, improving:

- corrosion resistance
- chemical resistance
- impact resistance
- abrasion resistance
- creep resistance
- stress cracking resistance

Adhesion durability

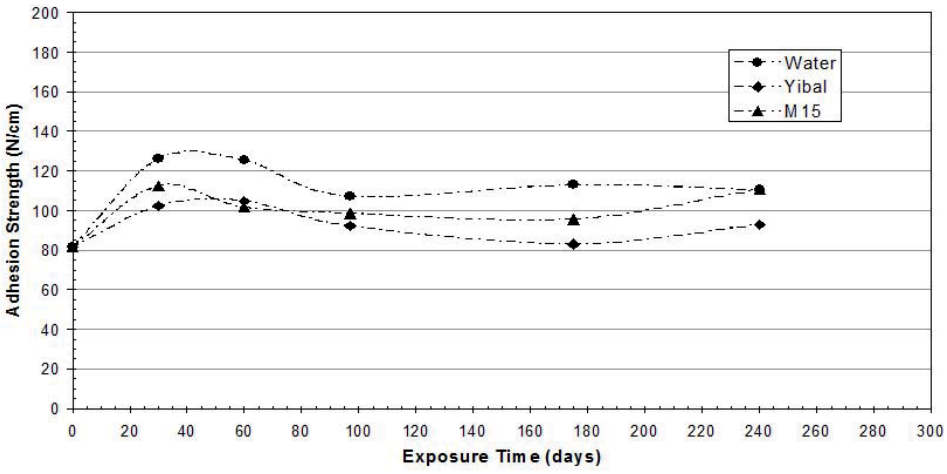
Being PA and HDPE not compatible, a third adhesive layer (tie layer) must be used to prevent the delamination of the layers and, consequently, the build up of fluid pockets inside the pipe wall.



PEEL TEST ON OILTECH SAMPLES

Long term adhesion strength

Since hydrocarbons, water and chemicals can decrease the adhesion strength, peel tests at critical conditions (T and fluids) have been carried out and have demonstrated the maintenance of the propriety.

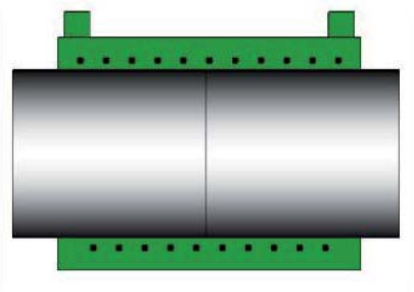


Electrofusion Joining Method

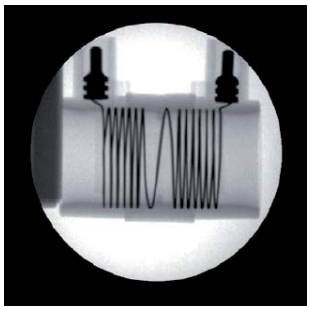
Oiltech is a thermoplastic piping system, and therefore it can be joined using Oiltech electrofusion fittings that guarantee perfect sealing and joints reliability.

The Electrofusion principle involves a combination of heat, self-generated pressure and time. All of the Oiltech 300 fittings contain molded-in electrical wires that provide, when energized, the required heat for welding pipe and fittings together. The resulting joint is stronger than the pipe and fittings, so the resulting pressure rating of the joint exceeds the pipes and fittings themselves.

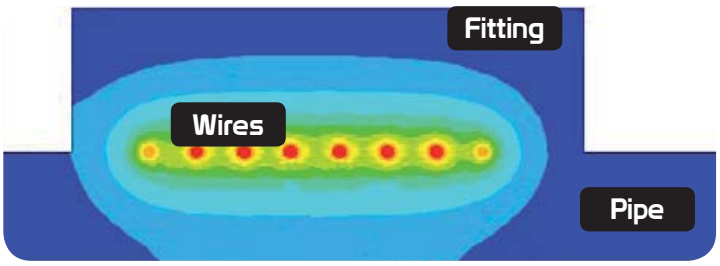
Each fitting is identified by a Barcode, which contains the specific welding parameters (required voltage and welding time), the size and type of fitting, the production facility, batch number and raw material code.



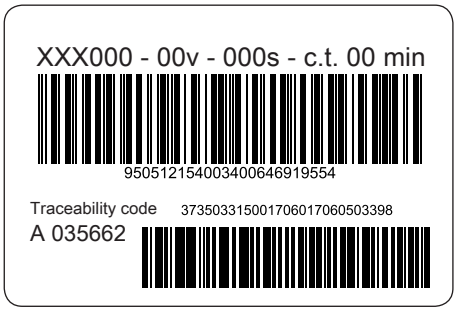
ELECTROFUSION JOINT



NUPIGECO REGULARLY TRAINS AND REVIEWS CERTIFIED INSTALLERS WORLDWIDE.



2D THERMAL ANALYSYS (THROUGH ANSYS)



WELDING PARAMETERS

XXX00: FITTING CODE
00v: TENSION
00s: WELDING TIME
c.t. 00 min: COOLING TIME

Oiltech transition fittings

Oiltech 300 Spigot Transition Fittings are available in pipe sizes from 2” to 10”.
The fittings are manufactured in compliance with ASTM F 1973 ‘Standard specification for factory assembled anodeless risers and transition fittings in PEHD PA11, PA12 fuel and gas distribution systems. Category 1-a transition joint which provides for pressure tightness and resistance to end loads sufficient to cause no *less* than 25% elongation of the PE, PA11 or PA12 piping as described in this standard’.

TENSILE TEST ON OILTECH TRANSITION FITTINGS: leak testing after tensile pull with test method D-638 capable of subjecting the joint to a costant pull rate of 0,2±25% in./min.

ASTM F1973_08
Tensile Strenght Test at pressure 20 bar / 300 Psi
Assembly condition: with electrofusion coupler
Test condition: 73.4 °F
Equipment: Tensile automatic dynamometer
Procedure: Perform leak test at 7 Psi and 450 Psi for 2 minutes before and after tensile test while still in tension (elongation 125% original length pipe). After this test, elongation is increased for more 125% with inside pressure 450 Psi
Test result: Conform, the pipe broke near the coupler

VIDEO TENSIL TEST

Effects of environmental exposure on physical properties

Weather resistance

The Oiltech Pipe is protected against degradation caused by ultraviolet rays from direct sunlight. The polyethylene resin contains 2-2.5% of finely dispersed carbon black. This provides the black color of Oiltech Pipe and Fittings. Carbon black is the most effective additive for enhancing the weathering characteristics of polyethylene. Oiltech piping can be safely stored outside in most climates for periods of many years without danger of loss of physical properties due to ultraviolet (UV) exposure. In general, Nupi Americas recommends the use of first-in, first-out inventory management procedure.

Installation temperature

Oiltech Piping System can be installed at any ambient temperature condition in which normal installation operations would continue. In cold weather, however, special procedural recommendations, as outlined in this bulletin, should be followed.

Pipe damage & repair

Industry surveys indicate the primary causes for repair need of plastic piping are from third party damage and poor workmanship in the initial installation. Risk of damage can be minimized by using careful mapping and location methods and by proper training and inspection procedures. When repair is required, an advantage of Oiltech Pipe is its capability of being squeezed to control gas/oil flow quickly and localize shutdown.

Recommended procedures for repair are outlined in the GPTC* Guide as well as the AGA 'Plastic Pipe Manual'. Squeeze-off in sections of pipe, which are to be left in the system, should only be done using approved techniques and properly designed equipment to minimize pipe damage. Procedures for squeezing-off Oiltech Piping are provided in the squeeze-off section of this bulletin.

**Gas Piping Technology Committee of the American Gas Association*

Installation guidelines

Handling

Oiltech Piping System is a tough flexible product that is able to withstand normal installation handling. However, unusually rough handling of Oiltech Piping System can result in damage to the pipe wall. Care should be taken to avoid pushing or pulling Oiltech Piping System over or around sharp projections. Oiltech Piping System is subject to impact damage when dropped from excessive heights or when heavy objects are dropped upon it, particularly during cold weather. Kinking or buckling should be avoided and any section of pipe that has been damaged in this manner should be cut out.

Based on pipe pressure tests, a good rule of thumb in determining if a scratched piece of pipe should be cut out of the piping system is: if the scratch depth is greater than 10% of the pipe wall thickness, then the section should be removed or repaired.

Unloading & Loading

When unloading or loading a shipment of Oiltech Piping System, forklift operators should be cautioned against damaging the pipe with the fork or tines of the lift truck. When unloading or loading straight sticks of pipe, allow for some bending in the middle of the lift. Position forklift tines as far apart as possible to reduce the amount of bending. This will enable operators to lift the load without raising the forks to excessive heights which risks dropping the load.

This is particularly important when unloading pipe at temperatures of 40°F or below; under these conditions, the pipe is stiffer and more susceptible to damage from impact.

When breaking down bulk packs, take care to stand clear of the pipe while strapping is being cut. Coiled Oiltech contain energy as in a spring. Uncontrolled release, i.e., cutting of straps, can result in dangerous uncontrolled forces. All safety precautions and proper equipment is required.

Stringing

Reel trailers can be helpful when stringing out coiled pipe for direct burial, plow-in, pull-in or insertion renewal. It is helpful when handling coiled pipe to string the pipe out on the ground upon arrival at the job site. This allows time for the coil set to relax, and will simplify handling and emplacement of the pipe.

When uncoiling pipe by hand, only cut those straps on the coils which are necessary to uncoil outer rolls; cut internal bands whenever necessary as the coil is unrolled.

Always inspect the pipe as it is being uncoiled and during installation to make sure no damage to the pipe has occurred during shipment and subsequent handling at the job site.

Dragging

Occasionally, when long strings of pipe are joined together, it is necessary to drag the pipe to where it will be installed. When the pipe must be dragged over rocky terrain or hard pavement, take precautions to protect the pipe from abrasion. Sandbags, used tires, or short logs may be used to support the pipe and prevent hard contact with sharp rocks or hard pavement.

Cutting

Oiltech Piping System should be cut with pipe cutters designed for plastic pipe. These tools easily provide the square cut ends that are necessary to provide satisfactory fusion joints. If carpenter or hacksaws are used to cut the pipe, special care must be taken to ensure square cut ends and to clean the resultant sawdust from inside the pipe.

Cold weather handling

Oiltech is a tough piping material; yet colder temperatures can reduce resistance to damage from mechanical abuse, such as impact. Avoid dropping the pipe, especially in cold weather. Although the recommended method of unloading is to use a forklift or crane, an alternate method is to roll the sticks of pipe down inclined planks. In all cases the pipe should be inspected for damage.

When handling coiled pipe at temperatures below 40°F, it is helpful to uncoil the pipe that is to be installed and let it straighten out prior to making the installation. This can be done by gradually uncoiling the pipe and covering it with dirt at intervals to keep it from coiling up again. Always be careful when cutting the straps on coils of pipe because the outside end of a coil may spring out when the strapping is removed.

It can be a good procedure to warm the coil a bit before uncoiling, keeping it close to a heat source of any type; for this purpose it can be used a camp tent duly warmed through a warming air system generator. It can be easily found on the market cheap and portable air heaters. It is recommended to warm the tent air at a temperature of maximum 120 °F until has melted all the ice coat eventually present and the pipe surface reaches the room temperature of 60°F (usually between 1 and 2 hours). The pipe surface temperature should be measured by the use of a tape thermometer.

Temperatures near or below freezing will affect polyethylene pipe by increasing stiffness, vulnerability to impact damage and sensitivity to suddenly applied stress especially when cutting.

Polyethylene pipe will be more difficult to uncoil or field bend in cold weather.

Significant impact or shock loads against a polyethylene pipe that is at freezing or lower temperatures can fracture the pipe.

- Do not drop pipe.
- Do not allow pipe to fall off the truck or in to the trench.
- Do not strike the pipe with handling equipment, tools or other objects.
- Do not drag pipe lengths at speeds where bouncing against the surface may cause impact damage.

Pipe should be firmly supported on both sides when cutting with a handsaw. This can be done by the use of the pipe aligner.

Squeeze Off technique can be used when the ambient temperature is above 50°F. It is always recommended to replace the squeezed pipe section (the multilayer pipe structures can be affected by this procedure due to the different tensile modulus of the involved materials)

Low temperature can cause the pipe to fracture at the cut if bending stress is applied.

Ice, snow, and rain are not harmful to the material, but may make storage areas more troublesome for handling equipment and personnel.

Squeeze-Off

Squeeze-off (or pinch-off) is a means of controlling flow in smaller diameter PE pipe and tubing by flattening the pipe between parallel bars. Flow control does not imply complete flow stoppage in all cases. For larger pipes, particularly at higher pressures, some seepage is likely. If the situation will not allow seepage, then it maybe necessary to vent the pipe between two squeeze-offs. Squeeze-off practices are not limited to gas applications. Squeeze-off is applicable to PE pressure pipe up to 16" IPS, and up to 100 psi internal pressure, and conveying various gases or liquids. Larger sizes and higher pressures may be possible if suitable commercial equipment is available. Manufacturers of squeeze-off equipment should be consulted for equipment applicability, availability and capabilities.

Squeeze-off tools should comply with ASTM F 1563(12). Typical squeeze-off tools use a manual mechanical screw or hydraulic cylinders, incorporate gap stops to prevent over-squeeze, and a mechanism to prevent accidental bar separation.

Closing and opening rate are key elements to squeezing-off without damaging the pipe. It is necessary to close slowly and release slowly, with slow release being more important. Squeeze-off procedures should be in accordance with ASTM F 1041(13) and should be qualified in accordance with ASTM F 1734(14).

Lower temperatures will reduce material flexibility and ductility, so in colder weather, closure and opening time must be slowed further.

Testing of PE piping has shown that squeeze-off can be performed without compromising the expected service life of the system, or pipe can be damaged during squeeze-off. Damage occurs:

- If the manufacturer's recommended procedures are not followed, or
- If the squeeze is held closed too long, or
- When closure stops are altered or circumvented, or
- By squeezing-off more than once in the same location.

Pipe known or suspected to have been damaged during squeeze-off should be removed from the system, or should be reinforced at the squeeze-off point using a full encirclement clamp and replacement repair scheduled.

Static Electricity Control – When pipe conveying a compressed gas is being flattened, the gas flow velocity through the flattened area increases. High velocity, dry gas, especially with particles present in the flow, can generate a static electric charge on pipe surfaces that can discharge to ground. Before flattening the pipe, the tool should be grounded and procedures to control static charge build-up on pipe surfaces such as wetting surfaces with conductive fluids and applying conductive films or fabrics to ground should be employed. Grounding and static control procedures should remain in place for the entire squeeze-off procedure.

Identify the squeezed-off area by wrapping tape around the pipe, or installing a full encirclement clamp over the area.

Trenching

For direct burial of Oiltech Piping System, trench bottoms should be relatively smooth, continuous and free of rocks and other debris. When ledge rock, hardpan or boulders are encountered, the

bottom of the trench should be padded with sand or other fine grained fill materials. The trench should be wide enough to allow (a) fusion in the ditch if required, (b) snaking of the pipe along the bottom of the trench if needed, and (c) filling and compaction of sidefills. Minimum trench widths can be utilized in most instances by joining the pipe before lowering it into the trench.

Generally, sufficient cover must be maintained to provide reasonable protection against anticipated external stress loads. Oiltech Piping System should be installed at a minimum depth of 24inches.

Pipe placement in trenches

Oiltech Piping System can be joined either above ground or in the ditch as the situation dictates. Though most joining can be accomplished above ground, joining that must be done in the ditch should be well planned to ensure that enough space is available and that proper alignment is achieved.
Care should be taken to avoid buckling, gouging, and other mechanical damage when lowering Oiltech Piping System into the ditch.

Align all pipe true to line and grade. As mentioned earlier, extremely cold weather makes Oiltech Piping System stiffer and increases the likelihood of impact damage.

Because plastic pipe contacts as it cools, it is desirable in warm weather to snake the pipe in the bottom of the trench. This provides for 'slack' in the pipeline to be taken up as the pipe cools and contracts in the ditch prior to backfilling.

Electrostatic

Electrostatic charges are generated through a process caused by the presence (in parts per million or billion) of ions in the fuel.
Positive or negative ions selectively attach themselves to any interfacial surface in contact with the fuel, such as the inner wall of the pipe, due to selective chemical absorption.
As a consequence, the inside surface of the pipe acquires a unipolar charge and ions of the opposite polarity in the fuel are attracted to it. A charged layer then extends from the wall into the fuel of a thickness that increases with decreasing fuel conductivity.
The net charge in the pipe is zero when the fuel is at rest.
When the fuel flows, the ions in the boundary layer tend to be carried along, while the opposite charge on the wall dissipates to earth at a rate depending primarily upon the pipe material's conductivity.
In any piping system, either metal or plastic, the primary source of charge generation is due to the flow of fuel through the pipe.
In addition to the electrostatic charging mechanisms, there is also the possibility of electrostatic charge being generated by friction with pipe wall and other components.
How does this relate to OILTECH pipe and fittings?

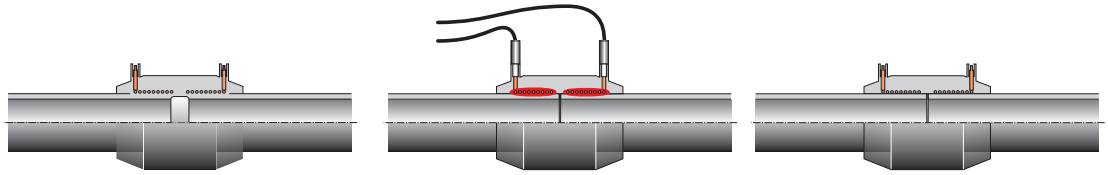
- Based on the typical fluid flow (≤ 8 miles/hour) there is no risk of hazardous discharges from the pipe due to the fluid flow.
- As a rule of good practice, it is recommended to bury all metal components such as valves.
- It is also recommended to stop up/close off or insulate the welding pins of the electro-fusion fittings, if not buried, after the welding process has been completed.

Electrofusion process

Oiltech system is based on ELECTROFUSION-WELDING. The fittings have a resistive wire inside which is connected to the outside cable terminals.
When voltage is applied, this resistance generates the heat needed to melt polyethylene.
Energy is directly transmitted at the interface between the fitting and the pipe causing heat welding of the parts.
When it cools down, the joint is even, strong, safe and reliable.
The main features of Oiltech are the high quality and the reliability of the joints.

Advantages of welding

- Welded and reliable joint
- ID after welding is the same as the PIPE ID
- The connection can be pigged
- Less expensive than mechanical joint
- Coupling is stronger than the pipe (the joint is not the weakness)

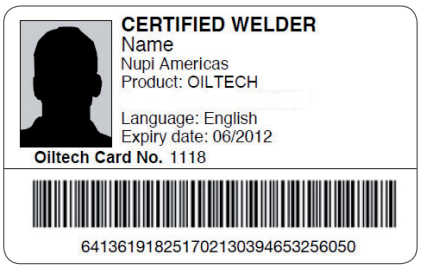


Each fitting is identified by a Barcode, which contains the specific welding parameters (required voltage and welding time), the size and type of fitting, the production facility, batch number and raw material code.

Oiltech Certified Installers can access the welding unit using their specific **Oiltech Card** that contains an ID barcode and the following information:

- Classification of the Oiltech Certified Holder
- Operator's name, photograph and number
- Company name and location (city, state/province and country)
- Training level indicated by the codes listed in the table below
- Language
- Expiration date
- Contact information

This system also allows complete traceability of each fitting.



Electrofusion tools

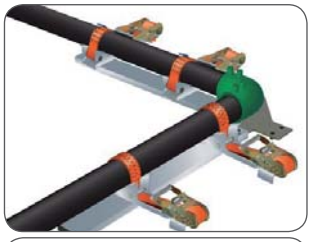
Appropriate tools are essential to ensure that the electrofusion welding process is carried out correctly. The tools required are:

- Pipe cutter (model **SCUT**) – It cuts pipes cleanly at 90° to the pipe axis without leaving any burrs.

- Universal scraper (model **RATO**) or revolving scrapers (model **RAT**) – Used to remove the oxidized surface layer of the pipe from the welding zone.

- Manual scraper (model **RAM**) - Used to remove the oxidized surface layer of the pipe from the welding zone.

- Marker (model **MARK**) - Used to mark the right welding length on the pipes or spigot ends to insert in the fittings to be welded.



- Aligner (model **ALL**) – Used to position and lock the parts to be welded to eliminate stress and/or tension from the welded connection during the welding and cooling process.

- Isopropyc alcohol (model **LID1**) – Used to clean the pipe from any trace of grease.

Multifunction welding unit

All the instructions and guidelines regarding safety precautions are outlined in the multifunction welding unit (model **00E9001/110**) user's manual. However, pay close attention to the following:

- The unit can perform testing functions when used with the Pressure Test Unit (model **SENS050**).
- Certified operators are responsible for assurance of recommended power sources. Power sources must be checked for compliance to the following specifications: -110 VAC, 50 Hz (min.) with a 10% tolerance.
- Inspect the multifunction welding unit, power cords and barcode reading device and replace any damaged components prior to use. Care must be taken not to damage the barcode reading device.
- Download the welding and pressure test reports and erase the data from the memory at the completion of each job.
- GPS - The welding unit records the geographical coordinates of the welded fittings, enabling the traceability of the fitting years after the installation.

Checks prior to electrofusion welding

Before starting the welding process, check that power generator is working correctly and efficiently. Check the condition of the extension leads and fuel supply to provide the necessary electrical power for the duration of the entire welding process. Finally, check the Multifunction Welding Unit cables and ensure that all components are working properly.

The "quality" of the electricity must also be checked: if the power generator must be asynchronous type. Correct welding requires careful use of the extension leads. The lead cross-section/length ratio is of vital importance. We recommend the following lengths and sizes:

Wire size	Recommended cable length
0.10 (in^2) 2.5 (mm^2)	19-22 (ft) 6-7 (m)
0.16 (in^2) 4.0 (mm^2)	30-36 (ft) 9-11 (m)
0.24 (in^2) 6.0 (mm^2)	49-55 (ft) 15-17 (m)

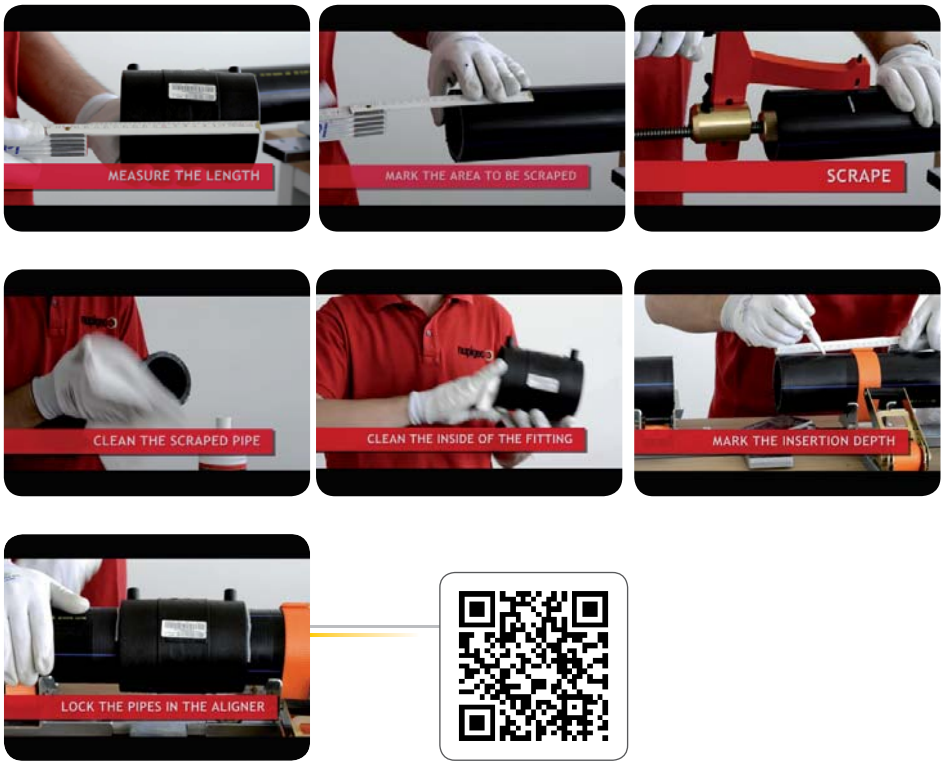
The misuse of the multifunction welding unit can result in hazardous situations for both the operator and the integrity of system components. Prior to commencing any welding operation, ensure you read the user's manual carefully.

Welding instruction for E/F fittings

Preparation of the pipe

1. Cut the pipe at right angles with a pipe cutter.
2. Scrape the pipe or spigot surface up to 0.4” (1cm) beyond the insertion length of the fitting, to remove the oxydized PE layer. Mechanical scrapers are recommended. Hand scrapers can be used.
3. Remove any mud, dust, grease or other traces of dirt from the pipe or spigot ends and the welding area of the fitting. Use only isopropanol and a soft wiping cotton cloth without any printing.
4. Wait until the cleaned parts are completely dry, then mark the welding length on the pipes or spigot ends with a marker pen.
5. Insert the pipe or spigot ends straight into the fitting up to the marked insertion length.
6. Install the aligners in order to keep straight position and avoid stresses during the welding.

AVOID ANY STRESS ON THE WELDING AREA DURING THE WELDING CYCLE AND THE COOLING PHASE



Welding instruction for E/F fittings

Welding instruction

1. Prepare the pipe and fitting to weld following the directions. Make sure that the pipes or spigots to be welded are lined up and straight without any possibility of movement.
2. Connect the welding cables to the fitting connectors, scan the barcode with the barcode scanner or enter the welding parameters manually.

ALWAYS CHECK THE WELDING PARAMETERS BEFORE STARTING THE WELDING CYCLE.

3. At the end of the welding cycle, disconnect the cables and wait for the cooling time indicated on the barcode.
4. The welding data can be downloaded by a USB Memory Device or instantly printed throught a printer.
5. The exact position of the installation can be recorded with the bluetooth gps.
6. When the cooling time is over, remove the aligners and start the pressure test on the system by the pressure test unit (follow your company procedures).

Piping pressure test procedure

All Oiltech installations must be pressure tested prior to being placed into service. A pressure gauge with test pressure at midscale is recommended.
The following table gives testing parameters to be used. Higher test pressures must be approved by the manufacturer.
If the installation has pressure constraints due to the installation of auxiliary devices, an agreement can be made to test various profiles. If this is the case, please contact our technical office.

The test method to be followed is the ASTM F2164.
Preferred test liquid: water.

SDR 9			
Test Duration	Test Pressure	Test Temperature	Test Liquid
2 H	360 PSI *	Room Temperature	Clean water
* 1,5 x service pressure (not exceeding 360 PSI)			

Restraint –The pipeline test section must be restrained against movement in the event of catastrophic failure. Joints may be exposed for leakage examination provided that restraint is maintained.

The testing equipment capacity and the pipeline test section should be such that the test section can be pressurized and examined for leaks within test duration time limits. Lower capacity testing and pressurizing equipment may require a shorter test section.
Test equipment and the pipeline test section should be examined before pressure is applied to ensure that connections are tight, and restraints are secured all low pressure lines and other items not subject to the test pressure should be disconnected or isolated.
If lower pressure rated components cannot be removed or isolated from the test section, the maximum test pressure is the pressure rating of the lowest pressure rated component that cannot be isolated from the test section.

The test section should be completely filled with the test liquid, taking care to bleed off any trapped air.

The test procedure consists of initial expansion, and test phases. For the initial expansion phase, the test section is pressurized to test pressure and test liquid is added as required to maintain maximum test pressure (1 hour).
For the test phase, the test pressure is reduced by 10 psi. This is the target test pressure. If the pressure remains steady (within 5% of the target test pressure) for an hour, leakage is not indicated.
If leaks are discovered, depressurize the test section before repairing leaks.

⚠ AS IN ANY SYSTEM WHERE PRESSURE IS EMPLOYED, ADEQUATE SAFETY PRECAUTIONS MUST BE EXERCISED.

Field tests

In 2000, extensive field tests have been carried out in West Texas and New Mexico on 3” (90mm) OD multilayer pipes.

The lines have been installed both above and below ground and operated at ambient temperature at pressures ranging from 30 to 300 psi (3 to 20 bar).
Some of the lines have been sampled over time.

Thermal and rheological analysis has shown that the structural layer has not suffered any significant damage due to service conditions.

Oiltech 300

MULTILAYER PIPES

Product description

Oiltech 300 series is a composite piping system developed for flowlines.
The polyamide liner provides chemical and abrasion resistance and excellent compatibility to hydrocarbons.

Features & benefits

- No permeation to hydrocarbons
- Smoothness of the ID wall
- No paraffin build-up
- Larger bore
- Excellent chemical and abrasion resistance
- Ability to resist scale and overall toughness
- Excellent flow properties throughout its service life
- Easy to install

Product application

Traditional materials are prone to rapid build up of paraffin in the pipe requiring aggressive maintenance programs.
Continuous seamless Oiltech pipe runs, and the use of large smooth bore electrofusion couplings, can virtually eliminate paraffin build up and the need for hot oiling or chemical treatment. By the use of NUPI Oiltech pipes and fittings, substantial cuts in maintenance costs can be achieved.
Featuring zero permeation to hydrocarbons, the Oiltech 300 series is the elective choice whenever environmental issues are at stake. Oiltech 300 lines can be installed either above ground or in standard ditches 3 feet deep. Thanks to long spools and the electrofusion technology the installation time can be drastically reduced to a minimum with outstanding savings in installation costs. Consult NUPI Americas' literature before installing the piping system.

Medium Pressure (SDR 9)		
T (°C)	T (°F)	PR (psi)
0	32	300
23	73	300
40	105	200
60	140	125

Storage / Handling

Pipes are supplied in bundles or coils. Fittings are packed in bags.
Pipes should be stacked on a reasonably flat surface, free from sharp objects, stones or projections likely to deform or damage them. Fittings should be stored in their original packaging until use.

Oiltech 300HT

MULTILAYER PIPES FOR HIGH TEMPERATURE APPLICATIONS

Product description

Oiltech 300HT is the new composite piping system specially developed for industrial applications at high temperatures (up to 200°F as peak temperature).

The structural layer is made of PE-RT (Polyethylene of Raised Temperature Resistance) that is a new family of PE materials with significantly improved long-term strength at high temperatures.

When compared to standard Oiltech 300, the HT (High Temperature) features remarkable properties.

Features & benefits

- Better pressure strength **at high temperature**
- Outstanding stress cracking resistance
- No permeation to hydrocarbons
- Smoothness of the ID wall
- No paraffin build-up
- Larger bore
- Excellent chemical and abrasion resistance
- Ability to resist scale and overall toughness
- Excellent flow properties throughout its service life
- Easy to install

Oiltech 300HT is the eligible choice in many applications where the service temperature is between 105°F and 180°F.
For lower temperature applications, such as flowlines, NUPI suggests to use Oiltech 300.

It can be installed and handled in the same way as standard Oiltech 300, even though it is capable of higher pressure performance at elevated temperatures. It has the same flexibility as Oiltech 300 and can be joined by using the same techniques (Electrofusion and Butt Fusion). It is therefore possible to use the same equipment and accessories for installation.

The Oiltech range is completed by EF fittings molded directly in PE-RT, providing the ideal welding compatibility with the pipe material.

Service conditions Oiltech 300HT

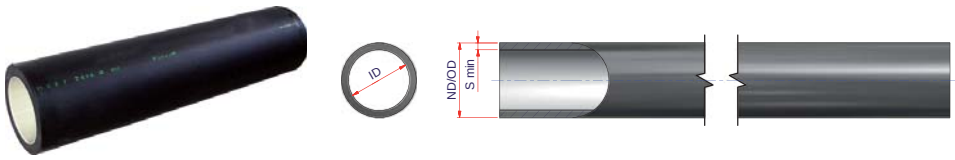
High Pressure (SDR 9)		
T (°C)	T (°F)	PR (psi)
0	32	300
23	73	300
40	105	240
60	140	195
70	158	165
80	180	145

Legend

Code	Nupi Item Code
Nominal Diameter (ND)	Pipe external diameter (all dimensions have to be considered in inches with 5% tolerance if not otherwise mentioned)
SDR	Standard Dimensional Ration: ratio of pipe outside diameter to wall thickness (OD/S)
OD	Actual outside diameter in inches (all dimensions are allowed to have a tolerance based on the applicable standard)
S	Wall thickness of the PE layer in inches (all dimensions are allowed to have a tolerance based on the applicable standard)
Pack.	Type of production (i.e. coil vs. straight stick)
Weight	Unit weight in pounds per feet
Feet	Length
	Oil

Pipes

OILTECH PIPE



High Pressure - 300 PSI - SDR9 - Natural liner Fig. 1A

Code	Normal Diameter (ND)	Pack.	Feet	OD	S min PE	ID	Weight (lbs/ft)
25TOG209C2000	2”	COIL	2.000	2.48	0.319	1.84	0.661
25TOG309C1000	3”	COIL	1.000	3.54	0.437	2.67	1.282
25TOG409C500	4”	COIL	500	4.33	0.516	3.28	1.869
25TOG609S40	6”	STICK	40	6.30	0.744	4.81	3.843
25TOG609S20	6”	STICK	20	6.30	0.744	4.81	3.843
25TOG809S40	8”	STICK	40	7.87	0.976	5.92	6.029
25TOG809S20	8”	STICK	20	7.87	0.976	5.92	6.029
25TOG1009S40	10”	STICK	40	9.84	1.204	7.43	9.293
25TOG1009S20	10”	STICK	20	9.84	1.204	7.43	9.293

Electrofusion Fittings

ELECTROFUSION COUPLER

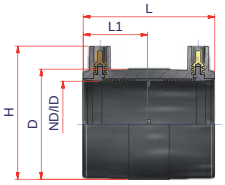
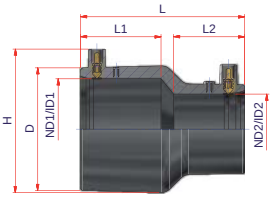


Fig. 2A

Code	Normal Diameter (ND)	Pack.	ND	ID	D	L 1	L	H
210ME2	2”	18	2	2.48	3.27	1.85	3.82	3.94
210ME3	3”	32	3	3.54	4.45	2.83	5.75	5.12
210ME4	4”	22	4	4.33	5.35	3.01	6.10	5.67
210ME6	6”	24	6	6.30	7.52	3.43	6.89	7.91
210ME8	8”	14	8	7.87	9.29	3.62	7.28	9.57
210ME10	10”	22	10	9.84	11.65	4.17	8.35	11.81

ELECTROFUSION REDUCER

Type A



Type B

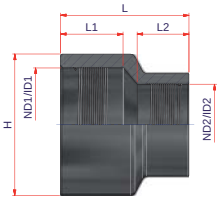


Fig. 3A

Code	Type	Normal Diameter (ND)	Pack.	ND 1	ID 1	ND 2	ID 2	D	L 1	L 2	L	H
210RDE32	A	3” - 2”	30	3	3.54	2	2.48	4.53	2.68	2.44	5.91	5.16
210RDE42	A	4” - 2”	24	4	4.33	2	2.48	5.31	2.85	2.48	6.30	5.93
210RDE43	A	4” - 3”	24	4	4.33	3	3.54	5.31	2.87	2.70	6.22	5.93
210RDE63	A	6” - 3”	12	6	6.30	3	3.54	7.56	3.19	2.83	6.97	8.15
210RDE64	A	6” - 4”	12	6	6.30	4	4.33	7.56	3.19	3.03	7.17	8.15
210RDE86	B	8” - 6”	1	8	7.87	6	6.30	-	4.45	4.02	8.86	9.61
210RDE108	B	10” - 8”	1	10	9.84	8	7.87	-	4.69	3.86	9.53	12.01

Electrofusion Fittings

ELECTROFUSION 90° ELBOW

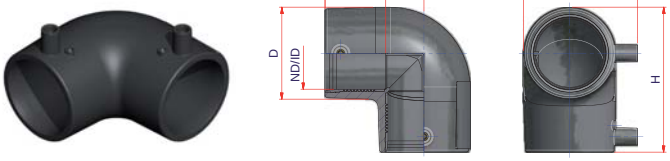


Fig. 4A

Code	Normal Diameter (ND)	Pack.	ND	ID	D	L 1	L2	L	H
210GEM2	2”	8	2	2.48	3.07	2.09	3.46	3.94	5.08
210GEM3	3”	14	3	3.54	4.53	3.07	4.69	5.24	6.93
210GEM4	4”	10	4	4.33	5.35	3.27	5.67	6.46	8.43
210GEM6	6”	8	6	6.30	7.76	3.66	7.17	8.27	11.02

ELECTROFUSION 45° ELBOW

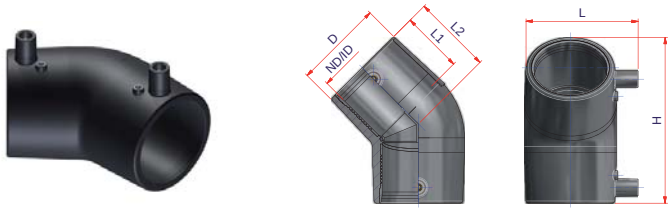
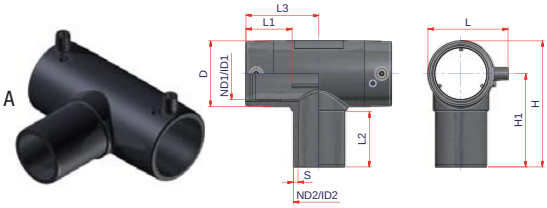


Fig. 5A

Code	Normal Diameter (ND)	Pack.	ND	ID	D	L 1	L2	L	H
210CEM2	2”	8	2	2.48	3.15	2.09	2.68	3.94	5.79
210CEM3	3”	20	3	3.54	4.69	2.76	3.90	5.28	8.19
210CEM4	4”	12	4	4.33	5.39	3.27	4.49	6.36	9.49
210CEM6	6”	10	6	6.30	7.80	3.90	5.35	8.46	11.61

ELECTROFUSION EQUAL TEE

Type A



Type B

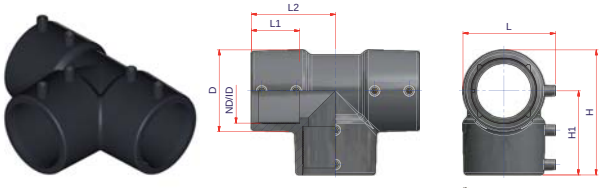


Fig. 6A

Code	Type	Normal Diameter (ND)	Pack.	ND 1	ID 1	ND 2	ID 2	S	D	L1	L2	L3	L	H1	H
210TE2	A	2”	6	2	2.48	2	2.48	0.23	3.15	2.24	2.68	3.54	3.90	4.53	6.14
210TE3	B	3”	10	3	3.54	3	3.54	-	4.65	2.66	4.72	-	5.28	4.72	7.17
210TE4	A	4”	7	4	4.33	4	4.33	0.39	5.47	3.27	3.48	5.67	6.16	6.97	9.72
210TE6	A	6”	8	6	6.30	6	6.30	0.57	7.48	3.43	4.13	5.94	7.93	8.19	11.93

Butt Welding Fittings

LONG SPIGOT 90° ELBOW

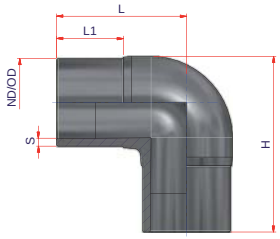


Fig. 7A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	L l	L	H
210GM2	2”	10	2	2.48	0.34	2.76	4.33	6.06
210GM3	3”	24	3	3.54	0.48	3.50	5.75	7.76
210GM4	4”	12	4	4.33	0.59	3.43	6.10	8.37
210GM6	6”	12	6	6.30	0.86	3.98	7.99	11.56
210GM8	8”	16	8	7.87	1.08	4.57	9.84	13.98
210GM10	10”	8	10	9.84	1.35	5.31	11.89	17.01

LONG SPIGOT 45° ELBOW

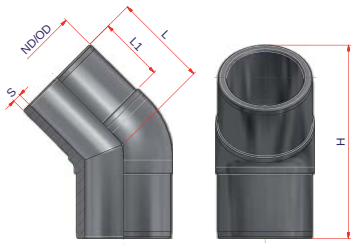


Fig. 8A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	Ll	L	H
210CM2	2”	12	2	2.48	0.34	2.72	3.94	8.27
210CM3	3”	25	3	3.54	0.48	3.54	4.72	9.25
210CM4	4”	12	4	4.33	0.59	3.43	4.72	9.53
210CM6	6”	6	6	6.30	0.86	4.02	5.91	12.24
210CM8	8”	16	8	7.87	1.08	4.57	7.68	15.83
210CM10	10”	12	10	9.84	1.35	5.31	8.54	18.19

Butt Welding Fittings

LONG SPIGOT TEE

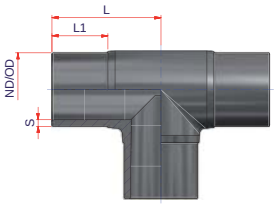


Fig. 9A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	L1	L
210T2	2”	30	2	2.48	0.34	2.72	4.72
210T3	3”	15	3	3.54	0.48	3.50	5.75
210T4	4”	9	4	4.33	0.59	3.43	6.10
210T6	6”	7	6	6.30	0.86	3.98	8.27
210T8	8”	10	8	7.87	1.08	4.53	9.65
210T10	10”	14	10	9.84	1.35	5.31	12.01

LONG SPIGOT REDUCER

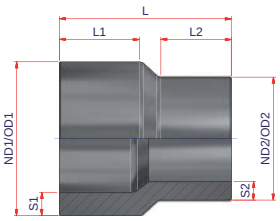
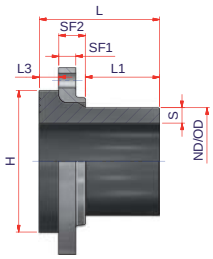


Fig. 10A

Code	Normal Diameter (ND)	Pack.	ND 1	OD 1	S1	ND 2	OD 2	S2	L1	L2	L
210RD32	3”-2”	24	3	3.54	0.48	2	2.48	0.34	2.87	2.17	5.83
210RD42	4”-2”	16	4	4.33	0.59	2	2.48	0.34	3.35	2.52	6.89
210RD43	4”-3”	26	4	4.33	0.59	3	3.54	0.48	2.99	2.68	6.73
210RD63	6”-3”	1	6	6.30	0.86	3	3.54	0.48	4.25	3.54	9.06
210RD64	6”-4”	12	6	6.30	0.86	4	4.33	0.59	4.05	3.46	8.46
210RD86	8”-6”	16	8	7.87	1.08	6	6.30	0.86	4.65	3.98	9.45
210RD108	10”-8”	1	10	9.84	1.35	8	7.87	1.08	5.12	4.53	11.02

Butt Welding Fittings

LOOSE FLANGE KIT ANSI 150



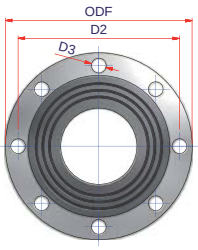
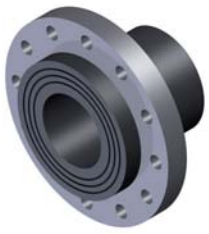
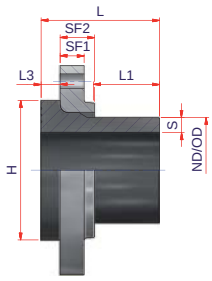


Fig. 11A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	LI	L3	L	H	ODF	SFI	SF2	D2	D3	holes
210KF2ANSI150	2”	1	2	2.48	0.34	2.51	0.55	4.57	4.02	6.00	0.75	1.00	4.75	0.75	4
210KF3ANSI150	3”	1	3	3.54	0.48	3.38	0.67	6.08	5.43	7.50	0.94	1.19	6.00	0.75	4
210KF4ANSI150	4”	1	4	4.33	0.59	3.26	0.71	5.91	6.22	9.00	0.94	1.31	7.50	0.75	8
210KF6ANSI150	6”	1	6	6.30	0.86	3.71	1.14	7.09	8.35	11.00	1.00	1.56	9.50	0.87	8
210KF8ANSI150	8”	1	8	7.87	1.08	4.11	1.26	7.87	10.55	13.50	1.13	1.75	11.75	0.87	8
210KF10ANSI150	10”	1	10	9.84	1.35	3.32	1.50	8.27	12.60	16.00	1.19	1.94	14.25	1.00	12

LOOSE FLANGE KIT ANSI 300





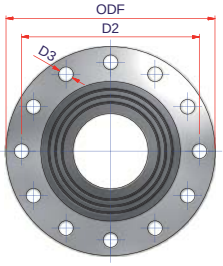


Fig. 12A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	LI	L3	L	H	ODF	SFI	SF2	D2	D3	holes
210KF2ANSI300	2”	1	2	2.48	0.34	2.51	0.55	4.57	4.02	6.50	0.88	1.31	5.00	0.75	8
210KF3ANSI300	3”	1	3	3.54	0.48	3.38	0.67	6.08	5.43	8.25	1.13	1.69	6.63	0.87	8
210KF4ANSI300	4”	1	4	4.33	0.59	3.26	0.71	5.91	6.22	10.00	1.25	1.88	7.87	0.87	8
210KF6ANSI300	6”	1	6	6.30	0.86	3.71	1.14	7.09	8.35	12.50	1.44	2.06	10.63	0.87	12
210KF8ANSI300	8”	1	8	7.87	1.08	4.11	1.26	7.87	10.55	15.00	1.63	2.44	13.00	1.00	12
210KF10ANSI300	10”	1	10	9.84	1.35	3.32	1.50	8.27	12.60	17.50	1.87	3.75	15.25	1.13	12

LONG SPIGOT CAP

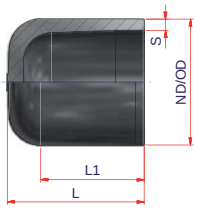


Fig. 13A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	LI	L
210CAP2	2”	1	2	2.48	0.34	2.76	4.34
210CAP3	3”	36	3	3.54	0.48	3.19	4.13
210CAP4	4”	24	4	4.33	0.59	3.54	4.69
210CAP6	6”	1	6	6.30	0.86	4.25	5.59
210CAP8	8”	1	8	7.87	1.08	5.24	6.77
210CAP10	10”	1	10	9.84	1.35	4.61	5.91

Transition Fittings

PE/STAINLESS STEEL MALE THREADED TRANSITION FITTING

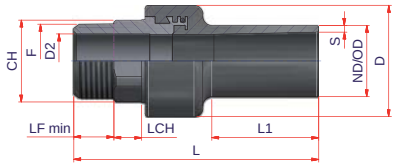


Fig. 14A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	F	LF min	L 1	L	D2	D	CH	LCH
210AM2NPT	2”	9	2	2.48	0.23	2	0.92	2.72	5.79	1.93	3.27	2.36	0.71
210AM3NPT	3”	2	3	3.54	0.32	3	1.17	3.43	7.20	2.80	4.65	3.54	0.91
210AM4NPT	4”	2	4	4.33	0.39	4	1.41	3.35	7.95	3.54	6.02	4.53	1.18

PE/STAINLESS STEEL MALE GROOVED TRANSITION FITTING

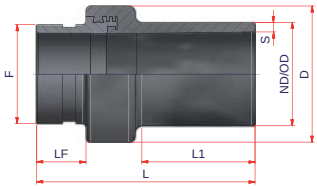


Fig. 15A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	F	LF	L 1	L	D
210AG2	2”	1	2	2.48	0.23	2	1.18	2.72	5.24	3.27
210AG3	3”	1	3	3.54	0.32	3	1.18	3.43	6.26	4.65
210AG4	4”	1	4	4.33	0.39	4	1.57	3.35	6.89	6.02
210AG6	6”	1	6	6.30	0.57	6	2.80	12.20	19.09	7.09

ADAPTER VITAULIC - CARBON STEEL GALVANIZED API5L SH40

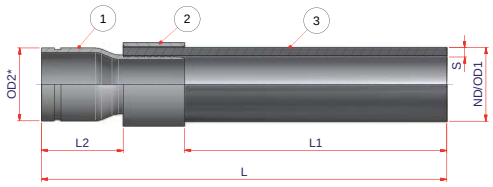


Fig. 16A

Code	Normal Diameter (ND)	Pack.	ND	OD1	S	OD2 (*)	L2	L1	L
210AV2	2”	1	2	2.48	0.31	2.38	3.74	11.81	17.91
210AV3	3”	1	3	3.54	0.44	3.50	3.74	12.60	19.29
210AV4	4”	1	4	4.33	0.52	4.50	4.53	12.60	20.08

(*) CUT CROWING
Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

ADAPTER THREADED NPT - CARBON STEEL GALVANIZED API5L SH40

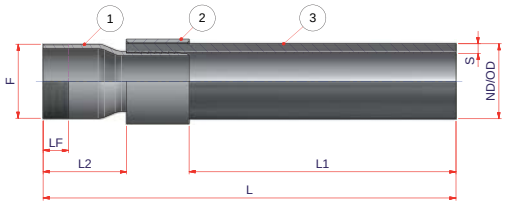


Fig. 17A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	F	LF	L2	L1	L
210AT2NPT	2”	1	2	2.48	0.31	2 NPT	0.76	3.74	11.81	17.91
210AT3NPT	3”	1	3	3.54	0.44	3 NPT	1.20	3.74	12.60	19.29
210AT4NPT	4”	1	4	4.33	0.52	4 NPT	1.25	4.53	12.60	20.08

Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

Transition Fittings

ADAPTER TRANSITION FLANGED ANSI 150

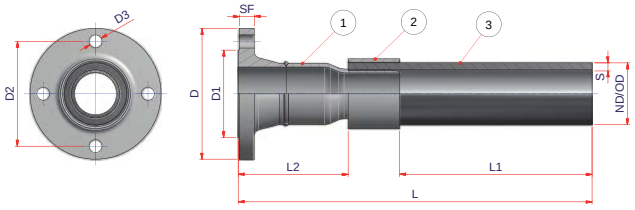


Fig. 18A

Code	Normal Diameter (ND)	Pack.	ND	OD	S	D	SF	Dl	D2	D3	holes	L2	Ll	L
210ATF2150	2"	1	2	2.48	0.31	6.00	0.75	3.62	4.75	0.75	4	5.91	11.81	20.08
210ATF3150	3"	1	3	3.54	0.44	7.50	0.94	5.00	6.00	0.75	4	6.30	11.02	20.27
210ATF4150	4"	1	4	4.33	0.52	9.00	0.94	6.18	7.50	0.75	8	7.28	10.04	20.27

Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

ADAPTER TRANSITION FLANGED ANSI 300

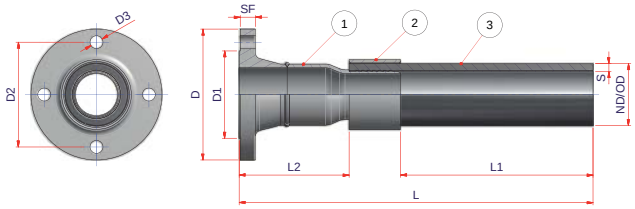


Fig. 19A

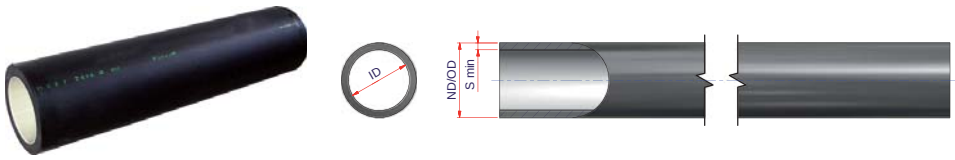
Code	Normal Diameter (ND)	Pack.	ND	OD	S	D	SF	Dl	D2	D3	holes	L2	Ll	L
210ATF2300	2"	1	2	2.48	0.31	6.50	0.87	3.63	5.00	0.75	8	6.30	11.42	20.08
210ATF3300	3"	1	3	3.54	0.44	8.25	1.13	5.00	6.63	0.87	8	6.69	10.63	20.27
210ATF4300	4"	1	4	4.33	0.52	10.00	1.25	6.18	7.87	0.87	8	7.68	9.65	20.27

Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

Pipes

HT series

OILTECH PIPE 300HT



High Pressure - 300 HT PSI - SDR9 - Natural liner Fig. 1B

Code	Normal Diameter (ND)	Pack.	Feet	OD	S min PE	ID	Weight (lbs/ft)
25TOG209C2000HT	2”	COIL	2.000	2.48	0.319	1.84	0.661
25TOG309C1000HT	3”	COIL	1.000	3.54	0.437	2.67	1.282
25TOG409C500HT	4”	COIL	500	4.33	0.516	3.28	1.869
25TOG609S40HT	6”	STICK	40	6.30	0.744	4.81	3.843
25TOG609S20HT	6”	STICK	20	6.30	0.744	4.81	3.843
25TOG809S40HT	8”	STICK	40	7.87	0.976	5.92	6.029
25TOG809S20HT	8”	STICK	20	7.87	0.976	5.92	6.029
25TOG1009S40HT	10”	STICK	40	9.84	1.204	7.43	9.293
25TOG1009S20HT	10”	STICK	20	9.84	1.204	7.43	9.293

HT series

ELECTROFUSION COUPLER 300HT

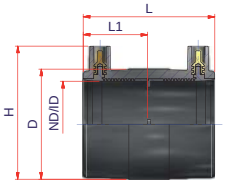


Fig. 2B

Code	Normal Diameter (ND)	Pack.	ND	ID	D	L 1	L	H
210ME2HT	2”	18	2	2.48	3.27	1.85	3.82	3.94
210ME3HT	3”	32	3	3.54	4.45	2.83	5.75	5.12
210ME4HT	4”	22	4	4.33	5.35	3.01	6.10	5.67
210ME6HT	6”	24	6	6.30	7.52	3.43	6.89	7.91
210ME8HT	8”	14	8	7.87	9.29	3.62	7.28	9.57
210ME10HT	10”	22	10	9.84	11.65	4.17	8.35	11.81

Transition Fittings

HT series

ADAPTER VITAULIC 300HT

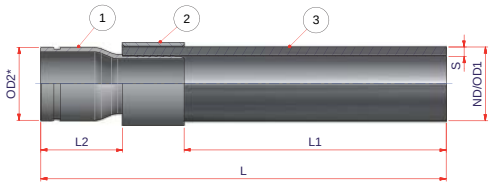


Fig. 16B

Code	Normal Diameter (ND)	Pack.	ND	OD	S	OD (*)	L2	L1	L
210AV2HT	2”	1	2	2.48	0.31	2.38	3.74	11.81	17.91
210AV3HT	3”	1	3	3.54	0.44	3.50	3.74	12.60	19.29
210AV4HT	4”	1	4	4.33	0.52	4.50	4.53	12.60	20.08

(*) CUT CROWING
Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

ADAPTER THREADED NPT 300HT

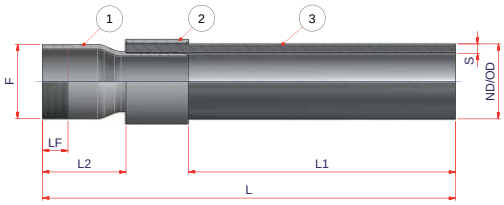


Fig. 17B

Code	Normal Diameter (ND)	Pack.	ND	OD	S	F	LF	L2	L1	L
210AT2NPTHT	2”	1	2	2.48	0.31	2 NPT	0.76	3.74	11.81	17.91
210AT3NPTHT	3”	1	3	3.54	0.44	3 NPT	1.20	3.74	12.60	19.29
210AT4NPTHT	4”	1	4	4.33	0.52	4 NPT	1.25	4.53	12.60	20.08

Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

HT series

ADAPTER TRANSITION FLANGED ANSI 150HT

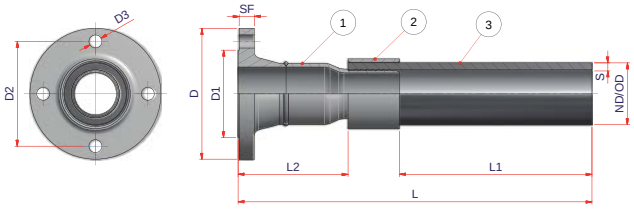


Fig. 18B

Code	Normal Diameter (ND)	Pack.	ND	OD	S	D	SF	DI	D2	D3	holes	L2	LI	L
210ATF2150HT	2”	1	2	2.48	0.31	6.50	0.87	3.63	5.00	0.75	8	6.30	11.42	20.08
210ATF3150HT	3”	1	3	3.54	0.44	8.25	1.13	5.00	6.63	0.87	8	6.69	10.63	20.27
210ATF4150HT	4”	1	4	4.33	0.52	10.00	1.25	6.18	7.87	0.87	8	7.68	9.65	20.27

Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

ADAPTER TRANSITION FLANGED ANSI 300HT

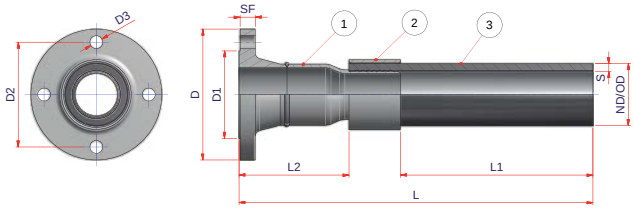


Fig. 19B

Code	Normal Diameter (ND)	Pack.	ND	OD	S	D	SF	DI	D2	D3	holes	L2	LI	L
210ATF2300HT	2”	1	2	2.48	0.31	6.00	0.75	3.62	4.75	0.75	4	5.91	11.81	20.08
210ATF3300HT	3”	1	3	3.54	0.44	7.50	0.94	5.00	6.00	0.75	4	6.30	11.02	20.27
210ATF4300HT	4”	1	4	4.33	0.52	9.00	0.94	6.18	7.50	0.75	8	7.28	10.04	20.27

Parts list: 1. Spigot steel galvanized
2. Seat ring steel galvanized
3. Spigot Pe+Liner

Equipment & Welding Units

CIRCULAR PIPE CUTTER

Fig. 30

Code	Application	Pack.	Weight (lb)
19SCUT	2”- 8”	1	3.740
19SCUT2	8” - 10”	1	5.940

DETERGENT FOR PE

Fig. 31

Code	Pack.	Weight (lb)
00LID1	8 bottles	2.200

UNIVERSAL SCRAPER

A

B

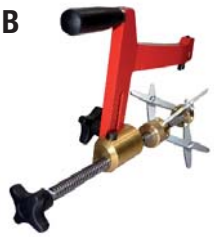


Fig. 32

Code	Type	Application	Pack.	Weight (lb)
00RATOR63200	A	2”- 8”	1	6.6
00RAT2A	B	8” - 10”	1	18.0
SPARE BLADE FOR 00RAT2A				
00RATKITRIC		**for 00RAT2A**		

Equipment & Welding Units

MANUAL SCRAPER

Fig. 33

Code	Pack.	Weight (lb)
00RAM1	1	0.3

PIPE ALIGNER

Fig. 34

Code	Application	Pack.	Weight (lb)
00ALL225/4	2” - 8”	1	45.0
00ALL315/4	8” - 10”	1	191.0

Equipment & Welding Units

The welding unit, manufactured in compliance with UNI 10566 standards. They have been designed for the welding of all electrofusion fittings utilizing the 24 digit barcode system (per ISO 13950). The unit has peak amperage of 100 amps. The welding unit can be operated in seven different languages (Italian, English, French, Spanish, German, Portuguese and Dutch - also available in Russian).

Data can be put in automatically with the scanner barcode or manually by entering welding data (time and voltage) related to the fitting in use.
During the welding cycle, the large backlit display shows the heating time, power consumption, voltage and energy used.

The welding unit have the capacity to store the parameters of 10.000 welding cycles on the external support.

THE INTERNAL SOFTWARE, DEVELOPED ESPECIALLY FOR THIS WELDING UNITS, ENABLES THE USER TO:

- DOWNLOAD WELDING REPORTS
- RECORD THE TRACEABILITY OF THE FITTING
- FIND THE GPS COORDINATES OF THE FITTING
- TEST THE PRESSURISED FLUID DISTRIBUTION NETWORKS

AUTOMATIC MULTIFUNCTION WELDING UNIT WITH BARCODE SCANNER AND INTEGRATED BLUETOOTH SYSTEM

BASIC EQUIPMENT SUPPLIED WITH THE WELDING UNIT

- User's handbook on external storage and quick guide on paper
- Software to download data
- Shipping box
- Scanner for barcode input

ADDITIONAL EQUIPMENT

- 00USBKEY: Software CD to download data (welding report, traceability, GPS coordinates and pressure test)
- 00GPS: Global Positioning System
- 00SENS: Pressure test unit
- 00BCSCAN: Barcode scanner

TECHNICAL CHARACTERISTICS:

Conforms with CE requirements
Conforms with UNI 10566 – POLYVALENT type
Barcode reader conforming with ISO 13950 and manual setting of time and voltage.
Illuminated display with 4 lines, 20 characters each
Memory for 10.000 welding cycles
8 Memories of 500 parameters each for pressure tests
Fittings working range up to 100 Amp maximum peak
Ambient temperature sensor
Power supply: 110V/50Hz
Maximum power: 2500 VA
Output voltage: from 5 to 42 V
Power cable: L= 12,5 ft
Welding cable: L= 10 ft
Connectors - 4 mm (art. 00S8305)
Degree of protection: IP 54
Working temperature: from 0°F to + 125°F

Fig. 35

Code	Voltage	ø	Dimensions	Weight (lb)	Volume (ft^3)
00E9001/110	110	2”-10”	12”x 8”x 18”	55,56	0.95
00E9001/110L	110	1/2”-6”	12”x 6”x 11”	29,00	0.61

PAIR OF PINS

Fig. 36

Code	ø	Pack.	Weight (lb)
00S8305	4 mm F	1	0.22

BARCODE SCANNER

Fig. 38

Code	Pack.	Weight (lb)	Volume (ft^3)
00BCSCAN	1	0.44	0.0001

USB MEMORY DEVICE

Fig. 39

Code	Application	Pack.
00USBKEY	for 00E9001/110 - 00E9001/110L	1

Equipment & Welding Units

GLOBAL POSITIONING SYSTEM (GPS)

When utilizing the global positioning system (00GPS), the welding unit records the geographical coordinates of the welded fittings, enabling the traceability of the fitting years after their installation.

Fig. 40

Code	Pack.	Weight (lb)
00GPS	1	0.780

PRESSURE SENSOR

Thanks to the pressure test unit the welding unit can carry out the inspection of the pressurized distribution network (water and gas connections before and after the meter, fire-prevention networks made of any kind of plastic or metal material).
With the help of the software (00EDP900) the test results are shown on the PC.
The welding unit has 8 memories dedicated to the data of the pressure tests.

Fig. 41

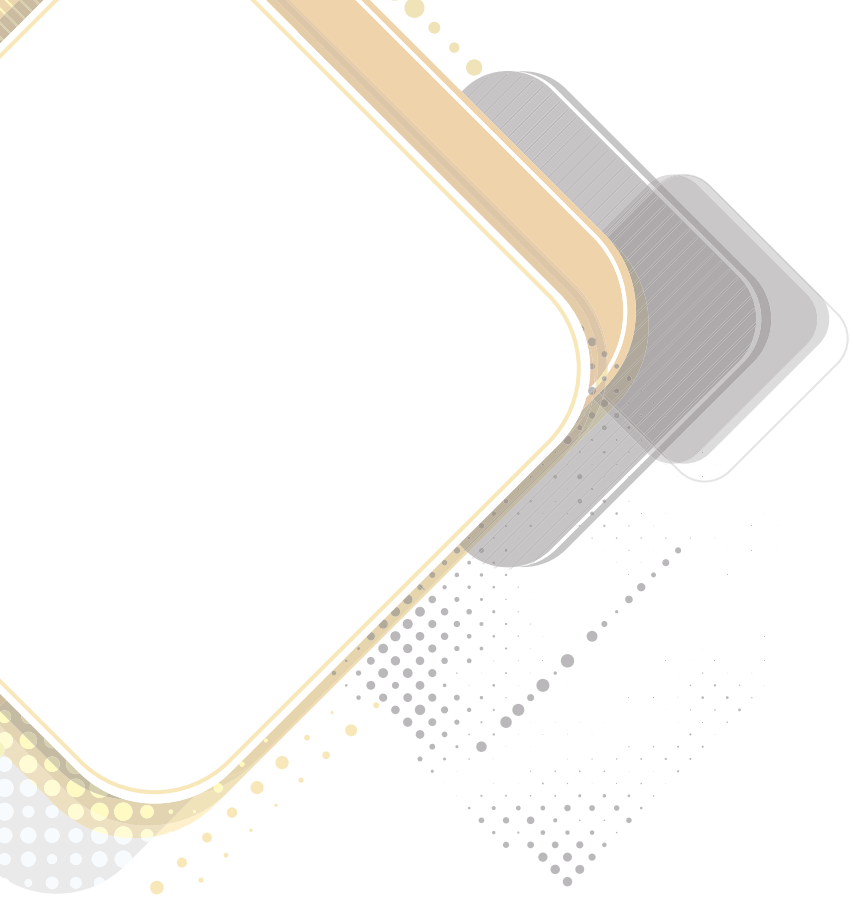
Code	Application Bar	Pack.	Weight (lb)	Volume (ft^3)
00SENS050	from 1 to 50 bars	1	6.17	0.0060

Notes

Notes

Recommendations for waste disposal

Metal and plastic material must be disposed of by authorized companies only. Dispose of responsibly.



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