

TWINEFLON® MONOFILAMENT SEALANTS

Patented pipe PTFE thread sealant monofilament
for sealing metal & plastic threaded pipe joints
mainly used for mechanical applications



TWINEFLON®
A 100% P.T.F.E. MONOFILAMENT
THE DYNAMIC UNIVERSAL P.T.F.E. THREAD SEALANT

Twineflon® main features

- Twineflon® is a dynamic sealant which adjusts its state during installation.
- Creates a perfect seal by calendaring the PTFE into a film in the exact thickness required between the two pipe-ends.
- Absolutely resistant to the most aggressive chemicals, solvents, fuels and acids.
- It remains functionally stable within temperature range of -200 °C / $+240\text{ °C}$.
- It is not flammable and does not burn.



Twineflon® main product advantages

- Non hazardous material with no limitation on shelf-life.
- PTFE is completely resistant to surface fouling, oxidation, embrittlement, fungal or bacterial growth, enzymatic or microbiological attack.
- Absolutely inert while remaining soft and pliable throughout its life.
- No effect whatsoever on the process fluids in the pipes.
- PTFE is the seal and does not require the presence of additives to function as a seal.



Twineflon® main Application Advantages

- It replaces all other thread sealants and tapes on all threads.
- Easier and quicker to install than other sealants.
- Low cost per seal for maximum performance.
- Simply wrap around the threads in an overlapping haphazard fashion.
- Install directly from the hand held dispenser with it's unique 360° proprietary cutter.
- Unused product remains safely protected from dirt & dust for future use.

Why Twineflon®?

The Material Twineflon® is made of 100% Polytetrafluoroethylene (PTFE), the most chemically resistant substance known to mankind.

The Chemical Resistance Twineflon® PTFE Pipe Thread Sealant is suitable for use in almost all applications, even those where the most aggressive & corrosive fluids are being used.

Twineflon® is not affected by water, gases, solvents, acids, chemicals or fuels and petroleum oils.

Twineflon® is chemically compatible with inorganic chemicals such as Mineral & Oxidizing Acids, Inorganic Bases, Peroxides, Halogens and Metal Salt solutions.

Twineflon® is chemically compatible with organic chemicals such as: Acids & Anhydrides, Hydrocarbons, Functional Aromatics, Alcohols & Amines, Ethers & Esters, Chlorinated & Polymer Solvents.



Why Twineflon®?

The Temperature Range PTFE remains functionally stable in a temperature range from - 200°C to +240°C.

The Tests Twineflon® has been submitted to rigorous sealing and reactivity testing conducted by recognised international Materials Testing Institutes such as DIN-DVGW, BAM, UL, TZW & others.

The Results Twineflon® passed every sealing test and passed every reactivity test.

The Dynamic Twineflon® is a dynamic sealant, soft, pliable and compressible. Twineflon® is compressed into a film in exactly the required thickness during the closing action to seal perfectly between the two pipe ends according to the space available. Twineflon® does not just plug space, it adapts and moulds itself perfectly to it.

The Future Is Twineflon®, probably the best pipe thread sealant in the world.



Why Twineflon®?

Twineflon® Pipe Thread Sealing cord is approved for use with hot and cold and drinking water.	WRAS (U.K.) KTW (D)
Twineflon® Pipe Thread Sealing cord is approved for use with gases in the 1 st , 2 nd , and 3 rd families, without restrictions on LPG.	DIN-DVGW (D)
Twineflon® Pipe Thread Sealing cord is tested and approved for pipe adjustments.	DIN-DVGW (D)
Twineflon® Pipe Thread Sealing cord is tested and approved in vibrating tests.	DIN-DVGW (D)
Twineflon® Pipe Thread Sealing cord is tested and approved for use with fine & coarse threads.	DIN-DVGW (D)
Twineflon® Pipe Thread Sealing cord is tested and approved for 100 bar pressure.	DIN-DVGW (D)
Twineflon® Pipe Thread Sealing cord is tested and approved for use with oxygen.	BAM (D)
Twineflon® Pipe Thread Sealing cord is tested and approved for use with steam.	DuPont (CH)
Twineflon® Pipe Thread Sealing cord is tested and approved for use with gasoline, petroleum oils, naphta, propane, butane, benzene, kerosene and natural gas.	UL (USA)

Why are pipe thread sealants required?

Pipe thread sealants are an important product that perform a critical role in safety and protection of the environment.

Pipe thread sealants are absolutely fundamental to stop leakage of fluids and/or gases from the pipe joints. When screwed together, there is always free space between the two threaded pipe ends. This is a consequence of both inaccuracies in the production of the pipes, but which to a degree is also necessary to allow them to be screwed together easily.

The amount of space between the two threaded pipe ends is variable and unfortunately it is not possible to measure it.

However, it would typically range from 0 microns up to >700 microns, depending on the quality of the pipes. It is never uniform but is always unique, and can vary at every point around the circumference of the threads. To a large extent, the quality and accuracy (or "fit") of the threaded joints depends on the substance from which the pipe is made, but in any case there will be a free space and thus the need for a sealant to be used.



How do pipe thread sealants work?

Current pipe thread sealants function by plugging the gap between the two threaded pipe ends. Currently, they are static in nature and block the space between the joints in accordance with their own size. They are required to resist chemical attack over time from the media flowing in the pipes and must not become brittle or crack. They must also resist fungal, bacterial or microbiological attack and surface fouling.

It is important to distinguish between the current common pipe thread sealants.

- Natural fibres (hemp/flax) coated with pastes (mineral oil based pastes & additives).
- Common melt processable plastics formed as a multifilament (e.g. Polyamides, Nylons, Polyethylenes, etc) coated with additives (e.g. silicon oils with additives etc.).
- Tapes of 100% Polytetrafluoroethylene (PTFE).

The first two above, are either natural or synthetic fibres which act as a carrier for a variety of additives (in the form of pastes or mineral oils). In these cases the hemp or synthetic fibres simply act as a carrier and it is the additive that effects the seal. The fibres, natural or synthetic, have no sealing capability of their own and will not work over at all without the presence of the oils & additives.

PTFE tapes are 100% polytetrafluoroethylene and unlike natural or synthetic fibres, are themselves the actual seal, not requiring the presence of any pastes or other additives in order to function effectively. Due to their chemical make-up, they are vastly superior in range and performance.

Why are pipe thread sealants required?

Due to its absolutely unique set of characteristics, PTFE is established around the world today as the only material of choice for sure, safe, long term efficient sealing in the broadest range of applications. Such has been the success of PTFE for over 50 years, that hundreds of millions of meters are used annually as pipe thread sealant around the world.

In actual fact, any material soft & pliable enough, could be used to block the space between the two pipe ends, thus preventing immediate leaks. Consideration must be given however to the longevity and safety of the seal. The material used must not only seal immediately but must maintain its total sealing ability over a long time. The problem becomes one of chemical attack in which the seal is destroyed over time by being in contact with the media flowing in the pipes.

Besides very aggressive chemicals, water and natural gas are already themselves very aggressive and will attack the sealing material. Unfortunately, water & gas leaks are still common occurrences and sometimes have dramatic and fatal consequences.

Leakages of chemicals, solvents, acids and fuels can often have very serious consequences for both people and the environment.

Why PTFE pipe thread sealants?

To answer this question a clear distinction needs to be made in the end-use. In the domestic water & gas application both hemp with paste and PTFE tapes are widely used. In the developed countries, PTFE tapes are well established alongside the older tradition of hemp. Synthetic fibers coated with silicon oils offer no functional advantages compared to hemp. While this offers no functional advantages whatsoever these products have proved to be attractive in the format and package and are gaining acceptance as a more modern option, particularly versus the traditional hemp with paste. Such products simply combine the fibre with the additive in one package, thus eliminating the need for the user to have both the hemp and the paste and having to combine them when installing. Hemp, being a naturally grown fibre, is in plentiful supply and has a very long history of successful service for use with water. Comparatively, it is very low cost so consequently it remains still an attractive option.

In the industrial and professional markets (i.e. outside of domestic water & gas), only PTFE tapes are viable options due to the far more critical conditions and performance required.



What is the perfect pipe thread sealant?

The perfect pipe thread sealant is a sealant of sufficient strength with the performance, functionality, reliability and history of service of that which has gone before. It should be a dynamic sealant rather than static, and should be presented in the style, format and convenience of the latest designs. It should be suitable for all & every application, combining the widest range of performance criteria possible. It should be suitable for all fluids, wide temperature ranges, high pressures. It should have unlimited shelf-life, be safe to use and simple to install.

This product has been developed and is now available all over the world.

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The Dynamic Universal Pipe Thread Sealant



MAIN END MARKETS



Home appliances



Chemical
industry



Sanitation



Construction

