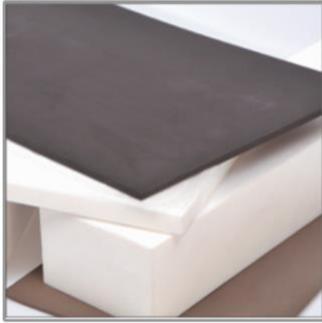


PTFE (POLYTETRAFLUOROETHYLENE) PRODUCTS



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We have the largest stock of PTFE stock shapes in Singapore, both in Virgin, Filled, Etched or Reprocessed materials.

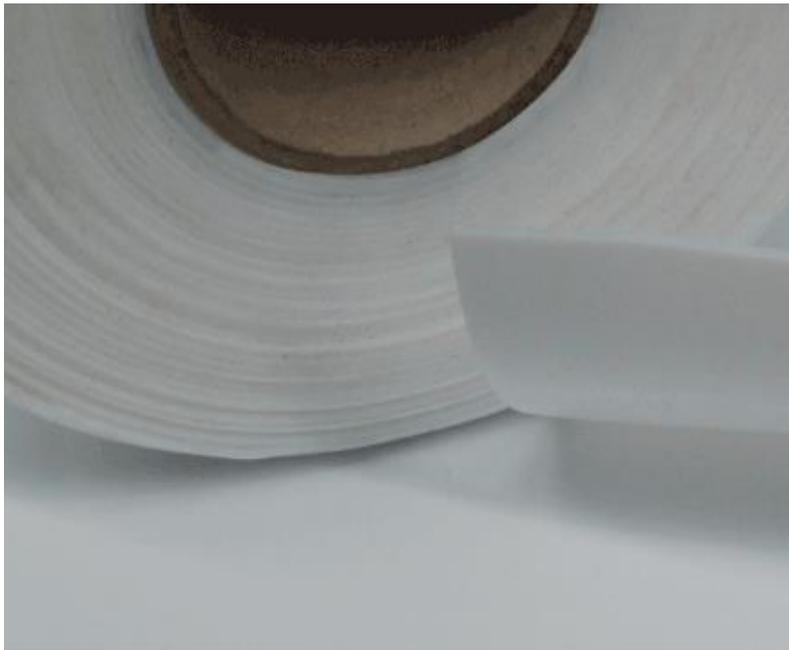
PTFE is used when conditions of operation require:-

- High operating temperature (continuous 270°C), excellent chemical resistance, or low coefficient of friction.
- It has good electrical insulation and thermal expansion rates.
- Non-toxic food grade and chemically inert.

The following types of PTFE Products are available:-

- Virgin & Reprocessed PTFE
- Filled or compounded PTFE
- Etched PTFE Sheets
- Expanded PTFE sheets
- Join Sealant & Lock Cords
- Flexible & Rigid Tubes

PTFE Tapes



PTFE Tapes in virgin, modified and filled PTFE.

PTFE Tapes are available in virgin, modified and filled PTFE.

- **Thickness ranges:** from 0.1 mm to 6 mm
- Standard width of 1000 mm – 1200 mm – 1500 mm – 2000 mm
- **Non-standard** width and length are available on request.

Etching treatment available on request.

PTFE Etching



Etching is a specific chemical process that makes PTFE tapes, sheets or finished parts glued to different substrates and materials.

Etching is a specific chemical process that makes **PTFE tapes, sheets or finished parts** bondable to different substrates and materials. The bondable side (acidated surface) can be easily distinguished from the typical dark brown color it takes after the etching treatment.

Such an etching process on the PTFE is a reaction between the sodium metal and the outer fluorine layer of the polymer, which is removed by a few hundred Angstrom leaving the carbon backbone free to create bonds with other surface.

There are two different etching techniques:

- **Sodium naphthalene:** is less aggressive on the PTFE surface, which means that the skin resistance (N/mm) is about 1,90.
- **Sodium ammonia:** penetrates deep into the surface of the PTFE resulting in a 3,15 skin resistance (N/mm).

However, sodium naphthalene is the only option for some specific products and applications.

High temperature, high humidity and especially UV light have a negative effect on the acidified surface. If not correctly stored, the **etched PTFE** can lose its bonding properties even in a few hours. If, however, properly stored the etching properties can last for weeks or months.

Due to this, we pack and ship all the etched material in black plastic bags, advising our customers on storage conditions and shelf life.

ETCHED PRODUCTS

Special Semifinished PTFE products from virgin PTFE to PTFE compounds up to modified PTFE.

Etching process with sodium-ammonia makes PTFE sheets and tape bondable to themselves or to metals. The etching process extract fluorine atoms at the surface creating a carbonaceous layer which can be bonded with the appropriate adhesives.

Key properties

Excellent resistance to continuous service temperatures starting from -100°C (212°F) up to 200°C (392°F) and, for limited periods, even to higher temperatures; the low temperature resistance of the product enables satisfactory performance at temperatures as low as -190°C (-310°F)

PTFE possesses a high inertness towards nearly all known chemicals. Only alkali metals, chlorine trifluoride and elemental fluorine at high temperature and pressures can affect PTFE properties

PTFE is insoluble in all solvents up to temperatures as high as 300°C (572°F). Certain highly fluorinated oils swell and dissolve PTFE only at temperatures close to the crystalline melting point

Our strength

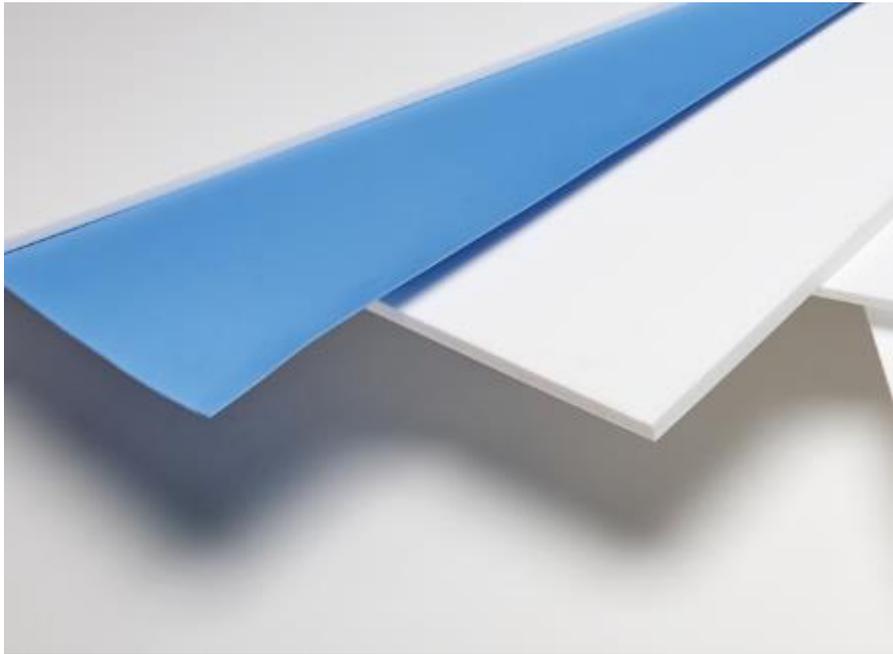
Skills to match the narrowest requirements of purity and reduced contamination consistently along the entire tape length (e.g. pin-holes absence, excluding contamination larger than $0,1\text{ mm}^2$, no scratch, no cracks)

Strict tolerances on width and thicknesses

Full product quality certifications

Flexible and easy to bond

PTFE Sheets



Skived sheets are available in virgin, modified and filled PTFE.

Our semifinished molded and **skived sheets** are available in different sizes in both virgin, modified and PTFE filled.

- **Thickness ranges:** from 0.1 mm to 100 mm
- Wide range of standard sizes available ex stock including extra-large sheets 1500×1500 mm and 2000×1000 mm

PTFE Rods



PTFE rods in virgin, modified and filled PTFE.

Our extruded and molded **Rods** are available in different sizes in virgin, modified and filled PTFE.

Extruded rods: from diam. 4 mm up to 250 mm

Molded rods: start from diam. 100 mm up to diam. 700 mm

Precision grinding for extruded rods is available on request.

PTFE Tubes



PTFE tubes are available in virgin, modified and filled PTFE.

Semi-finished extruded and molded **PTFE tubes** are available in virgin, modified and filled PTFE with the widest range of metric and imperial sizes.

Extruded tubes: range from a size of O.D. 8 mm up to 150 mm

Molded tubes: from O.D. 35 mm up to O.D. over 3000 mm

Precision grinding for extruded tubes is available on request.

Our wide range of tubes also includes [isostatic molded tubes](#).