# FLUOROPLASTIC ETCHING SERVICE


**Fluoropolymers are known for their non-stick properties. However, Adtech can offer a chemical etching service for PTFE and all other fluorocarbon polymers, so they can be easily and safely bonded.**

**Please call our customer service team on +44 (0) 1285 762000 or email sales@adtech.co.uk should you wish to discuss your particular application.**

## WHY IT WORKS

The active sodium in the etching solution reacts with the surface molecules of a fluorinated polymer to form a carbonaceous film of free radicals. These radicals react with $O_2$ and $H_2O$ and each other to form a layer of chemically active groups attached to the surface. Typically groups formed are: ethylenic, acetylenic, hydroxyl and carbonyl. Many of these react with adhesives and potting compounds to form a chemical bond.

## TYPICAL APPLICATIONS

Wherever there is a use for fluoropolymers, there can be a need for the etching process to be applied. From wire and cable products to PTFE and FEP sheet and tape, from chemical tank liners, to printed circuit boards, engineering components and electronic potting.

## BOND STRENGTH

Etched samples stored for several years indoors showed no decrease in bond ability. If you are storing the etched component , the surface must be protected from grease contamination and exposure to UV.

Typical peel strengths of bonds range from 13 to 22 kilos, per inch of width, depending upon the type of adhesive, the thickness of the adhesive and the surfaces being joined. Shear strengths can range from 27 to 58 kilos per inch of width.

## ETCHING CAPABILITIES

- Overall etching of components
- ID surface of fluoroplastic tubes up to 400mm
- OD surface of fluoroplastic tubes up to 400mm
- Sections of tube ID & OD
- Complex profiles, we are able to mask off the areas that are not to be treated.

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