

TEKPORE

THE FILTERING SOLUTION

Guarniflon S.p.A.

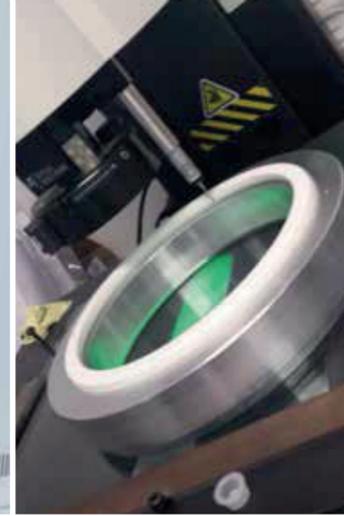
Via T. Tasso, 12
24060 - Tagliuno di Castelli Calepio
Bergamo - Italy
Tel. +39.035.4494311
Fax +39.035.4494336
info@guarniflon.com
www.guarniflon.com
GPS: N45°38.2605, E009°53.5665

VENDITE ITALIA
vendite@guarniflon.com
Fax +39.035.4425191

INTERNATIONAL SALES
sales@guarniflon.com
Fax +39.035.4425238

POROUS PTFE
BY GUARNIFLON SPA





MAIN APPLICATIONS OF POROUS PTFE



Filter and safety technology

- filter membranes
- protective sheaths
- dust filters
- protective elements for sensors
- silencers
- pressure balance system

Polytetrafluoroethylene, best known as PTFE, is a high performance plastic material used in a wide range of industrial applications.

Guarniflon®, since 1982, is processing massive quantities of PTFE semifinished and engineered parts for the following main applications:

- chemical & petrochemical
- electronics
- automotive
- food
- pharmaceutical
- ball valves

The total yearly production output of 5.000 tons. is including virgin PTFE products as well as high performance compounded PTFE grades developed by Guarniflon Engineering, the R&D department fully supporting the production site.

GUARNIFLON® PTFE MAIN PROPERTIES

- High melting point (342°C)
- Outstanding thermal stability
- Useful mechanical properties at extremely low and high temperatures
- Insolubility
- Exceptional chemical inertness
- Extremely low coefficient of friction
- Low dielectric constant/dissipation factors
- Zero water ab/adsorbtion
- Excellent weatherability
- Flame resistance
- Purity

DRIVING FORCES

- High sealability
- Safety
- Reliability
- Low maintenance
- Long life
- Low pollution
- Low emissions
- Energy saving
- Miniaturization

A UNIQUE INTEGRATED PROCESSING CHAIN

Thanks to the raw material compounding unit Flontech, Guarniflon® is able to control and internally process all kinds of raw material PTFE compounds, studied and developed with the R&D department.



GUARNIFLON ENGINEERING

RESEARCH

materials engineering



FLONTECH

FLUOROPOLYMER RAW MATERIALS COMPOUNDER

materials compounding



GUARNIFLON®

PTFE SEMIFINISHED AND MACHINED PRODUCTS

materials processing

TEKPORE PROPERTIES THE MAIN PROPERTIES OF GUARNIFLON® POROUS PTFE

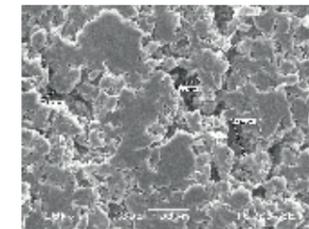
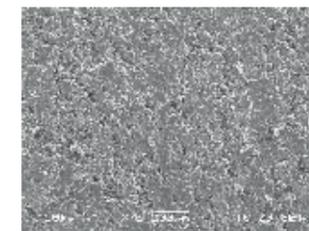
Porous PTFE grades are produced from suspension PTFE powders and specifically they are a mixture of different particle size distributions and hardness degrees (presintered and non presintered grades) to achieve the desired level of porosity. Taking advantage of the up-to-date technologies and know-how used to process sintered PTFE products, Guarniflon® has developed different grades of porous PTFE with the following main properties:

Air flow rates: up to 20 l/hr/cm2 at 20 mbar
 Water intrusion pressure (WIP): up to 1,2 bar
 Average pore diameter: up to 50 µm

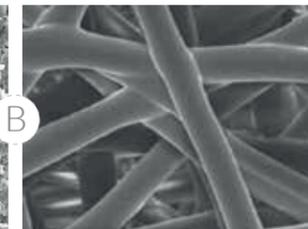
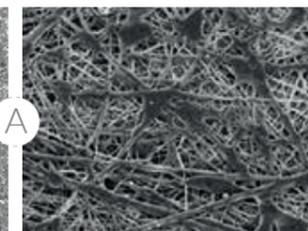
Features	TEKPORE	PTFE	EXPANDED PTFE
Naturally Hydrophobic (IP rated)	■		■
Sintered Porous Structure	■		ID
High Temperature (>250°C)	■		■
High Tensile Strength in all directions	■		■
Precise porosity and thickness control	■		NA
High UV and outdoor weather resistance (UL746C)	■		■
Meets UL 94 flammability (VO)	■		ID
High open area (>80%)	■		■
Secondary oleophobic treatment meets AATCC grade 8	■		NA
Water naturally runs off surface	■		ID
Benefits			
Low flex fatigue	■		■
Omni-directional	■		■
Heat welding	■		■
Vibrational Welding	■		■
Can apply physical pressure to membrane	■		ID
Can plate metallic or other secondary layers	■		ID
Low sound blocking	ID		■
Mounting inside or outside of enclosure	■		■

■=Yes ■=No NA=Not Available ID=Insufficient Data

TEKPORE



EXPANDED



A - Low Macro comparison SEM picture

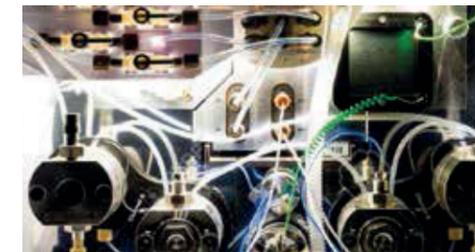
B - High Macro comparison SEM picture

C - TEKPORE section SEM picture



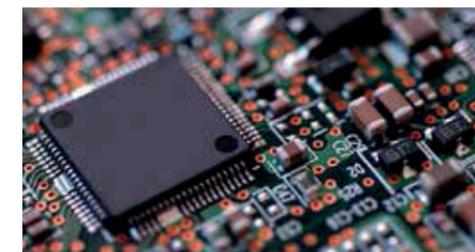
Automotive engineering

- abs
- airbag
- asr
- automatic controls
- batteries
- injection control
- esp
- hooters
- headlights
- tyre pressure monitoring systems



Optical metrology - Chromatography

- reflectors
- spectrometers
- ulbricht spheres
- photometers



Chemicals, semiconductor and clean room technology

- filters for gases and liquids
- catalyst supports-diaphragms
- gas injection and/or gas distribution
- pressure compensation devices