

**COMPANY PROFILE**

With more than 7000 tons per year, Guarniflon is one of the world's leading manufacturers of fluorobased machined and semifinished products.

Guarniflon production is based on:

extruded and moulded tubes and rods, sheets, films, tapes and machined products in virgin and compounded PTFE and other fluorobased materials.

Established in 1982, today Guarniflon leads a group of 13 international Companies, 2 divisions and 1 joint-venture. The present leadership was reached thanks to the quality management system which meets customer requirements.

**QUALITY MANAGEMENT - R&D TEAM**

Since 1993, Guarniflon is working with a Quality Management System in accordance with UNI EN ISO 9001:2005 and since 2021 with IATF 16949:2016.

Thanks to a modern and qualified laboratory equipped with the most updated apparatus, special physical-chemical-electrical and mechanical testing and analysis are daily performed complying with international standards such as ASTM, DIN, BSI, ISO, etc.

The laboratory is run by a skilled and experienced team, able to test and make all quality controls in incoming, in process and ready-to-deliver materials and products, in order to grant Guarniflon customers the best quality and service.

Guarniflon today:

- 7000 Tons of fluoropolymer materials processed every year
- 600 People involved
- 3300 Regular Customers
- 73 Countries reached
- 13 Branche offices and companies
- 2 Divisions
- 1 Joint-Venture

Main industrial application fields of Guarniflon products are chemical, petrochemical, valves, hydraulic and pneumatic, machine tools, electronics, electromechanical, automotive, pharmaceutical, medical, food, aerospace, etc.

An international network with its Headquarters in Italy.

In addition to this, an innovative electronic S.P.C. system has been developed since 1993, connected with the machining of the PTFE final products, allowing the operators to keep steadily under control and store the dimensional data of the products during the process.

Guarniflon policy implies a high powered and experienced R & D team continuously improving and developing - day by day - new solutions for new applications, also in close cooperation with some relevant University Institutes.

**GUARNIFLON GROUP**



ADMINISTRATION OFFICES



Flontech - Division Italy



Pati - Division Italy



Ghivi S.r.l. Italy



Kit Solutions S.r.l. Italy



Ghirlandi Maurizio S.r.l. Italy



Nextflon S.r.l. Italy



Pagnoni S.r.l. Italy



Maceplast GmbH Germany



Maceplast UK Ltd. UK



Maceplast France S.A. France



Maceplast Romania S.A. Romania



Maceplast España S.L. Spain



IPM Industrial Plastics and Machine Inc. U.S.A.



Industrial Plastics (Canada) Inc. Canada



Guarniflon India PVT. LTD. India



ZHEJIANG GREEN GUARNIFLON FILM TECHNOLOGY CO. LTD P.R.C.

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YOUR CHOICE FOR  
 FLUOROBASED PRODUCTS



### VIRGIN AND FILLED PTFE

The **G Series** names a family of products based on polytetrafluoroethylene (PTFE), both virgin and filled with different reinforcing ingredients and additives.

The G Series range includes beside the virgin grade, a number of standard types filled with glass fibers, carbon powders, graphite, and bronze powders in different percentages and combinations. G Series products are available as basic shapes and finished parts, standard and special.

#### The base characteristics of virgin ptfе are the ones offering a unique combination of:

- low coefficient of friction (the lowest among all solid materials known)
- excellent chemical inertness
- extremely non-adhesive surface (practically no products could stick on it)
- wide temperature withstanding (from -200° C up to +260° C)
- excellent dielectric properties
- toughness and flexibility balance

### HIGH PERFORMANCE PTFE BASED COMPOUNDS

The material of the **filled grades of G Series** range are among the best solutions today offered by the market to resolve tribological applications where the most critical operating conditions are present.

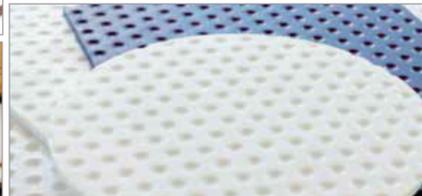
The capability of operating completely dry makes of filled grades of G Series the right answer for applications where to lubricate could be a tough problem (because of inaccessibility, extreme temperatures, chemical corrosion or risk of contaminating other products, such as food or drugs). The materials of the filled grades of G Series range offer the best combination of properties in terms of low coefficient of friction and high wear resistance in a wide variety of operating situations. For special application needs also special grades filled with alumina, calcium fluoride, PPS, PEEK and other fillers are available. Today Guarniflon has available more than 80 different compounds providing solutions to the most tribological applications.

#### THE MAIN ADVANTAGES OFFERED BY THE FILLED GRADES OF G SERIES MATERIALS ARE:

- dry running capability/self-lubricant properties
- low coefficient of friction
- high wear resistance
- load carrying capabilities
- low relative abrasiveness
- operating temperature from -200°C up to +260°C
- thermal dissipation and antistatic properties
- chemical inertness and atoxicity
- dimensional stability
- flexibility and fatigue stress resistance
- vibrations dampening/low noise running
- low dirtying characteristics
- food contact compatibility
- dielectric properties

#### G SERIES BASIC SHAPES INCLUDE:

- extruded rods from mm. 3 up to mm. 115
- moulded rods from mm. 30 up to mm. 530
- extruded tubes from OD mm. 10 x ID mm. 4 up to OD mm. 165 x ID mm. 150
- moulded tubes from OD mm. 40 x ID mm. 15 up to OD mm. 1815 x ID mm. 1640
- moulded sheets 600x600 - 1000x1000 - 1500x1500 - 1000x2000 from mm. 3,0 up to mm. 100 thick
- skived sheets and tapes from thickness mm. 0,025 up to mm. 5, width up to mm. 1.500



### HPF - HIGH PERFORMANCE FILMS

High Performance Films from Guarniflon are skived and melt extruded fluoropolymer films engineered by Guarniflon Spa R&D Department to allow the customers to select the right film for their application requirements.

A wide range of grades including PTFE, FEP PFA, ETFE, PVDF, THV, to match right combination of physical chemical performances in a variety of key market segments including composite molding for the automotive and aerospace industries, chemical processing, electrical/electronics, renewable energies and marine.



PTFE skived tapes and films that can be offered also calendered or ultra flat. Tapes and films can be chemically etched. Thermoprocessables fluoropolymers skived tapes and films in FEP - PFA - MFA. Extruded films made by FEP - ETFE - THV - PVDF - PFA.



Premium Quality Pressure Sensitive Adhesive Tapes, offered with or without release liners in Fluorosilicone, Polyethylene, PVC, Paper.

Two different adhesive systems: Acrylic and Silicone.



Special products developed as release films for composite industry applications.

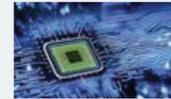
Perforation capability available.



#### AEROSPACE



#### ELECTRONICS



#### SOLAR ENERGY



#### TRANSPORTATION



#### AUTOMOTIVE



#### MARINE



### SC SERIES THE SOLUTIONS TO PROBLEMS OF SEALING

The solutions to problems of sealing Developed by Guarniflon® R&D team, SC series is a superior and unique material for gasket (flat Sealing) applications.

The overall benefits of Guarniflon® SC series over that of both conventional PTFE and competitive PTFE/filler blends are found in the areas of environmental improvement (they are asbestos free) and overall cost saving.

Main applications in the chemical, petrochemical, pharmaceutical, food, paper industries, etc.

SC1100	SC1200	SC1400	SC1600	SC1800
<ul style="list-style-type: none"> <li>• Superior chemical resistance</li> <li>• Excellent resistance to deformation - No ageing</li> <li>• Good compressibility</li> <li>• High sealability</li> <li>• No water absorption</li> <li>• Non-flammable</li> <li>• Easy maintenance (assembling / disassembling)</li> </ul>	<ul style="list-style-type: none"> <li>• Superior chemical resistance</li> <li>• Excellent resistance to deformation No ageing</li> <li>• High compressibility</li> <li>• High sealability</li> <li>• No water absorption</li> <li>• Non-flammable</li> <li>• Easy maintenance (assembling / disassembling)</li> </ul>	<ul style="list-style-type: none"> <li>• Superior chemical resistance to strong acid, solvents, hydrocarbons, chlorine - water and steam</li> <li>• Excellent resistance to deformation</li> <li>• No ageing</li> <li>• High compressibility</li> <li>• Superior sealability for a wide range of pressure and temperature - No water absorption</li> <li>• Non-flammable</li> <li>• Easy maintenance (assembling / disassembling)</li> </ul>	<ul style="list-style-type: none"> <li>• Superior chemical resistance</li> <li>• Acids, solvents, hydrocarbons, refrigerant, water</li> <li>• Low bolt load</li> <li>• No ageing</li> <li>• Excellent compressibility - Superior sealability</li> <li>• No water absorption</li> <li>• Non-flammable</li> <li>• Easy maintenance (assembling / disassembling)</li> </ul>	<ul style="list-style-type: none"> <li>• Superior chemical resistance in presence of hydrofluoric acid, caustic compounds, hydrogen peroxide, sodium ipochlorite, nitric acid.</li> <li>• Excellent resistance to deformation</li> <li>• Non-flammable</li> <li>• High compressibility</li> <li>• Easy maintenance (assembling/ disassembling)</li> <li>• Low bolt load</li> <li>• No ageing</li> <li>• No water absorption</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>APPROVALS</b></li> <li>Complies with FDA protocols 21 CFR 177.1550 21 CFR 175.300</li> <li>Complies with REG. EU 10/2011</li> <li>Complies with TA-Luft VDI 2440</li> </ul>	<ul style="list-style-type: none"> <li>• <b>APPROVALS</b></li> <li>Complies with FDA protocol Certified by BAM (Gaseous Oxygen, 200°C, 25 bar)</li> <li>In compliance with TA-Luft VDI 2440</li> </ul>	<ul style="list-style-type: none"> <li>• <b>APPROVALS</b></li> <li>Complies with FDA 21 CRF 177.1550</li> <li>Complies with TA-Luft VDI 2440</li> </ul>	

### GES SERIES- AIR & GAS COMPRESSORS MATERIALS

Among the 250 different PTFE compounded grades available at Guarniflon, 8 of them have been developed for compressor applications, based on PTFE materials. The compounded grades are processed at Guarniflon HQ's in Italy thanks to a unique integrated supply chain: the process is made possible thanks to Guarniflon compounding department capable of preparing the specific powders required for the intended use.

From the time the raw materials enter the company to the production of semifinished products, the process is monitored to meet the required quality standards.

Guarniflon internal management system ensures the traceability of orders for qualified products for compressors applications, starting from the raw material compounding, to the production of semi-finished products and finally to the machining of pieces and their final control.



### FOOD AND BEVERAGE MATERIALS

Modern production processes in critical industrial sectors such as chemistry, pharmaceuticals and the food sector require materials that guarantee purity and stability, without which the risks of alterations of the products subject to the production processes would be too high.

This is a theme that today is becoming increasingly topical even for the production capacities reached by modern plants, where an alteration or contamination that occurs during a single process would expand on an industrial scale with damages and repercussions of the same size.

### SOME OF GUARNIFLON APPROVED GRADES

**TEKCLEAN**  
Antibacterial and antimicrobial fluoropolymer

**D-TEKBLUE**  
Revolutionary x-ray and metal detectable PTFE

**PTFE G673**  
Toughness and elasticity in the same PTFE compound

