

FFGI.
SRL
GUARNIZIONI INDUSTRIALI



FFGI.

INDUSTRIAL GASKETS



...since 1980.

SEALING SOLUTION FOR:

- ✓ FOOD AND BEVERAGE
- ✓ PHARMA
- ✓ FINE CHEMICALS
- ✓ OIL AND GAS
- ✓ POWER STATION
- ✓ SHIPYARD
- ✓ OIL FREE COMPRESSORS
- ✓ EARTH MOVING MACHINE
- ✓ MECHANICAL INDUSTRY



L'AZIENDA
The company

Nel nostro stabilimento sito in Grumello del Monte (BG), area di primaria importanza a livello europeo per la trasformazione del PTFE, la produzione viene affidata a personale altamente qualificato e specializzato che dispone di macchinari ed attrezzature moderne ed efficienti. Velocità, qualità e competenza sono le nuove regole dettate da un mercato sempre più esigente; in questa prospettiva F.F.G.I. srl ha adottato un sistema informatico che garantisce la tracciabilità ed il monitoraggio di tutte le fasi di produzione, dall'arrivo della materia prima fino all'imballaggio, innovazione fondamentale che unita alla nostra attenzione alle certificazioni e al nostro Sistema di Gestione Qualità (certificato UNI EN ISO 9001:2015) ci permette di collaborare con aziende leader nel mercato europeo.

FFGI srl is a manufacturing company founded in 1980, leader in production of industrial gaskets, which find their main application in fine chemicals industry, pharma, cosmetics, food & beverage, as well as in the energy and naval sectors. In our factory located in Grumello del Monte (BG), an area of primary importance in Europe for the PTFE transformation, the production is entrusted to highly qualified and specialized personnel equipped with modern and efficient machinery and technologies. Fast deliveries, high quality, and competence are the new rules dictated by a more and more demanding market; in this perspective FFGI srl has adopted an IT system that guarantees the traceability and monitoring of all stages of production, from the incoming raw materials to the final packaging, a fundamental innovation that combined with our attention to certifications and our Quality Management System (UNI EN ISO 9001: 2015 certified) allows us to cooperate with leading companies in the European market.





PRODOTTI E APPLICAZIONI

Products and applications



PHARMA



FOOD & BEVERAGE



CHEMICAL



INDUSTRIAL



EARTH MOVING MACHINES



SHIPYARD



OIL & GAS



Guarnizioni a Busta in PTFE
PTFE envelope gaskets



Guarnizioni piane in PTFE
PTFE flat gaskets



Guarnizioni piane in esente amianto
Non asbestos flat gaskets



Guarnizioni Tri-clamp in PTFE
PTFE Tri-clamp sanitary gaskets



Componenti per impianti in vetro
Parts for glass plants



Anelli di tenuta e fasce guida
Compression rings and guide rings



Manicotti riparatori in PTFE
PTFE repair sleeves



Convogliatori in PTFE
PTFE sleeves



Guarnizioni raccordi DIN11851 in PTFE
DIN11851 PTFE fitting gaskets



Guarnizioni raccordi Cam-lock
Cam-lock fitting gaskets



Trecce - Baderne
Gland braided packing



Compensatori PTFE per basse pressioni
Low pressure PTFE expansion joints



Soffietti in PTFE
PTFE bellows



Guarnizioni in HPU
HPU gaskets



Guarnizioni energizzate in PTFE
Energized seals



Tubazioni e raccordi rivestiti in PTFE
PTFE lined pipings and fittings



Compensatori PTFE per alte pressioni
High pressure PTFE expansion joints



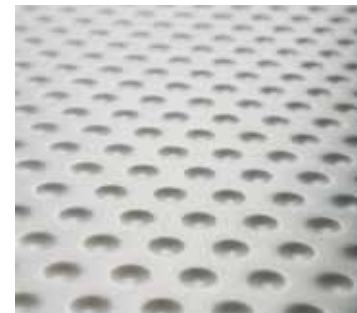
Compensatori in elastomero rivestiti in PTFE
PTFE coated rubber expansion joints



O-ring in PTFE
PTFE O-rings



O-ring incapsulati in FEP-PFA
FEP-PFA encapsulated O-rings



PTFE alveolato
Dimpled PTFE



Guarnizioni piane in gomma
Rubber flat gaskets



Guarnizioni piane in grafite
Graphite flat gaskets



Guarnizioni spirometalliche
Spiral wound gaskets



Tenute per valvole aseptiche in PTFE
PTFE seals for aseptic valves



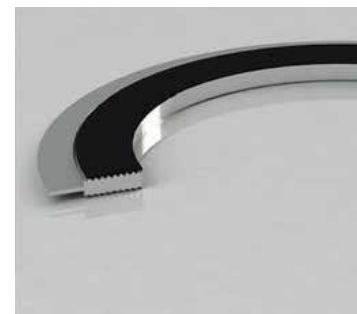
Seggi floating e trunnion
Trunnion and floating seats



Pacchi Chevron - Chevron packings



Back-up ring



Guarnizioni Kammprofile
Kammprofile gaskets



Guarnizioni Metalloplastiche
Metal jacketed gaskets



Ring joint



Guarnizioni lenticolari
Lens ring

MATERIALI - Materials

					TECHNICAL VALUES				CERTIFICATIONS			
Product description	Base Material	Filler	Properties	Color	Density (g/cm³) ASTM D792	Elongation (%) ASTM D4745	Hardness (Shore D) ASTM D2240	Tensile Strenght (MPa) ASTM D4745	FDA 177.1550	EC 1935/2004 EU 10/2011	USP CLASS VI @121 °c <87> <88>	3A SANITARY STANDARD NO-20-27
FLON-CHEM 1000	Virgin PTFE	None	Good mechanical properties, excellent temperature and chemical resistance, extremely non-adhesive	WHITE	2,13 - 2,19	≥ 200	≥ 54	≥ 20				
FLON-CHEM 1121	Virgin PTFE premium grade	None	Preferred for parts and components requiring very good mechanical properties	WHITE	2,13 - 2,19	≥ 280	≥ 24	≥ 25				
FLON-CHEM 1075	Modified PTFE premium grade	None	Lower permeability to gases and deformation under load, greater elastic recover and mechanical properties	WHITE	2,12 - 2,18	≥ 500	≥ 50	≥ 30				
FLON-CHEM 1001	Virgin PTFE	25% glass	Improved wear resistance, compression strenght, creep resistance, chemical resistance (except to alkalis and hydrofluoric acid). Good performance in oxidizing environment	WHITE	2,22 - 2,28	≥ 180	≥ 60	≥ 13				
FLON-CHEM 1001B	Virgin PTFE	15% glass	Improved wear resistance, compression strenght, creep resistance, chemical resistance (except to alkalis and hydrofluoric acid). Good performance in oxidizing environment	WHITE	2,20 - 2,26	≥ 200	≥ 58	≥ 18				
FLON-CHEM 1001M	Virgin PTFE	15% glass + 5% mos2	Superior hardness and wear resistance, increased sliding properties	BLACK	2,20 - 2,30	≥ 230	≥ 55	≥ 18				
FLON-CHEM 1002	Virgin PTFE	25% carbongraphite	Improved electrical and thermal conductivity, better resistance under load, low coefficient of friction, improved wear resistance and low friction properties	BLACK	2,07 - 2,11	≥ 60	≥ 62	≥ 13				
FLON-CHEM 1003	Virgin PTFE	25% carbon	Improved electrical and thermal conductivity, better resistance under load, low coefficient of friction, rapid dissipation of electrical charge, inertness and chemical resistance	BLACK	2,04 - 2,12	≥ 60	≥ 62	≥ 13				
FLON-CHEM 1057	Virgin PTFE	25% carbonsoft	Excellent temperature and creep resistance, improved thermal dimensional stability and compression strenght, good thermal and electrical conductivity	BLACK	2,08 - 2,12	≥ 100	≥ 60	≥ 15				
FLON-CHEM 1004	Virgin PTFE	15% graphite	Improved wear resistance, decreasead friction and increased sliding properties against soft metals, chemical inertness	BLACK	2,14 - 2,17	≥ 180	≥ 55	≥ 16				
FLON-CHEM 1009	Virgin PTFE	10% aromatic polyester (ekonol)	Improved low friction behavior and high wear resistance against all counterfaces	TAN	2,03 - 2,09	≥ 180	≥ 60	≥ 15				
FLON-CHEM 1022	Virgin PTFE	1,2% conductive	Suitable for all chemicals through the PH range (0-14) with the exception of molten alkali metals, fluorine gas, hydrogen fluoride or materials that can generate those. Is implied where a conductive material is necessary (ATEX)	BLACK	2,14 - 2,18	≥ 320	≥ 60	≥ 32				
FLON-CHEM 1040	Virgin PTFE	40% bronze	Improved compression strenght, wear resistance, high thermal conductivity, resistance to abrasion, reduced chemical resistance	BROWN	3,05 - 4,15	≥ 180	≥ 65	≥ 15				
FLON-CHEM 1040M	Virgin PTFE	40% bronze + 5% mos2	Superior hardness and wear resistance. Increased sliding properties. Lower coefficient of friction than only bronze filled	BROWN	3,15 - 3,25	≥ 180	≥ 65	≥ 18				
FLON-CHEM 1060	Virgin PTFE	60% bronze	Improved compression strenght, wear resistance, high thermal conductivity, resistance to abrasion, reduced chemical resistance	BROWN	3,80 - 4,00	≥ 150	≥ 65	≥ 17				
FLON-CHEM 1045	Virgin PTFE	50% passivated 316 stainless steel	Superior compression strenght and wear resistance properties, high thermal conductivity, resistance to abrasion	GREY	3,35 - 3,45	≥ 230	≥ 60	≥ 20				

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FLON-CHEM 1086 DETEK	Virgin PTFE	Special blue detectable pigment	Improved thermal stability, high chemical and wear resistance. Extended detectability (visual, metal, x-ray)	BLUE	2,30 - 2,36	≥ 250	≥ 58	≥ 20				
FLON-CHEM 1092CF	Virgin PTFE	10% carbon fiber	Improved lubricant properties in wet environments (dynamic applications). Resistance to hydrofluoric acids and strong bases (except oxidizing environments)	BLACK	2,06 - 2,10	≥ 225	≥ 60	≥ 21				
FLON-CHEM 1100J	Virgin PTFE	Polyimide	Superior tribological properties, excellent low friction behaviour and wear / self-lubricating properties. Recommended for use with soft mating surfaces such as stainless steel, aluminum, mild steel, brass and other plastics	YELLOW	1,85 - 1,95	≥ 250	≥ 55	≥ 15				
FLON-CHEM 1100FR	Virgin PTFE	Special glass fiber	Superior wear resistance, compression strenght, creep resistance (against hard counterfaces), chemical resistance (except for alkalis and hydroflouric acid). Excellent electrical insulating properties and low friction behaviour	BRICK RED	2,20 - 2,27	≥ 180	≥ 60	≥ 13				
FLON-CHEM 1185 SFC	Virgin PTFE	Special mineral fiber	Improved thermal dimensional stability, creep resistance and compression strenght. Excellent temperature resistance and chemical stability. Improved surface hardness, low friction behaviour and great electrical insulating properties	GREY	2,20 - 2,25	≥ 200	≥ 58	≥ 18				
FLON-CHEM 1504	Virgin PTFE	Mica	Amazing temperature resistance (up to 1000°C), replace the expanded graphite in oxidizing environment. Used in thermal power plants, marine industries, heat exchangers, gas exhausts pipelines or flanges	WHITE	2,27 - 2,33	≥ 60	≥ 68	≥ 11				
FLON-CHEM 2557	Modified PTFE	25% carbonsoft	Excellent temperature and creep resistance, improved thermal dimensional stability and compression strenght, good thermal and electrical conductivity	BLACK	2,08 - 2,12	≥ 60	≥ 60	≥ 4				
FLON-CHEM 1011	Modified PTFE	Silica	Superior microstructured reinforced PTFE for parts and components requiring excellent mechanical properties. Chemical resistance and solvent resistance, insoluble in all solvents up to temperatures as high as 300°C	PINK	2,20 - 2,30	≥ 200	≥ 60	≥ 19				
FLON-CHEM 1015	Modified PTFE	25% glass	Superior microstructured reinforced PTFE for parts and components requiring excellent mechanical properties. Chemical resistance and solvent resistance, insoluble in all solvents up to temperatures as high as 300°C	WHITE CREAM	2,22 - 2,28	≥ 300	≥ 60	≥ 10				
FLON-CHEM 1023	Modified PTFE	1,2% conductive	Antistatic, UV resistant with high degree of hydrophobicity, extremely non adhesive, excellent chemical and temperature resistance	BLACK	2,14 - 2,18	≥ 350	≥ 54	≥ 30				
FLON-CHEM 1033	Modified PTFE	Barium sulfate	Chemically inert against all substances (pH 0 - 14), included moderate acids (excluded molten alkali metals and elemental fluorine at high temperatures and pressures)	OFF-WHITE	2,75 - 2,85	≥ 200	≥ 68	≥ 14				
FLON-CHEM 1050	Modified PTFE	25% hollow glass microspheres	Superior microstructured reinforced PTFE for parts and components requiring excellent mechanical properties. Thanks to his uniform density and superior adaptability assimilates flange roughness and unevennes, applying low gasket stress and reducing surface diffusion to the minimum	LIGHT BLUE	1,65 - 1,75	≥ 230	≥ 57	≥ 16				
FLON-CHEM MULTISOFT	Expanded PTFE Multidirectional	None	For sealing sensitive material like glass lined steel, glass or ceramic. Long lasting gasket solution for aggressive media. Not toxic, not flammable, UV resistance. Unlimited shelf life	WHITE	0,85	≥ 60	/	/				

QUALITÀ
Quality

Dal 1999 FFGL Srl dispone di un Sistema di Gestione della Qualità certificato da ente esterno, ad oggi conforme alla normativa UNI EN ISO 9001:2015.

L'SGQ coinvolge tutti i processi aziendali e si avvale di certificati, controlli e test consolidati e condivisi con i nostri clienti in base alle loro esigenze in termini di qualità e sicurezza.

- Emissione di Inspection Report (controlli dimensionali) con piano di campionamento sia in accordo alle specifiche interne FFGL che su richiesta del cliente grazie all'ausilio di strumentazioni ad alto contenuto tecnologico
- Emissione di certificati UNI EN 10204 2.1-2.2-3.1 della materia prima utilizzata
- Rilevamento dei tempi di produzione tramite avanzamento delle commesse e controllo dello stato di avanzamento in tempo reale
- Rintracciabilità a ritroso garantita tramite il lotto di produzione, obbligatoria in alcuni ambiti legislativi
- Marcatura non invasiva sul pezzo finito del lotto di produzione o altre indicazioni utili.



Since 1999 FFGL Srl has a Quality Management System certified by an external authority, which today complies with the UNI EN ISO 9001: 2015 standard.

The QMS involves all business processes and takes advantage of consolidated tests, controls and certificates shared with our customers based on their needs in terms of quality and safety.

- Issue of Inspection Report (dimensional checks) with sampling plan both in accordance with internal FFGL specifications and customer requests with the best high-tech instrumentation available on the market
- Issue of UNI EN 10204 2.1-2.2-3.1 certificates of the raw material used
- Detection of production times through the monitoring of the orders progress and real time order status checking
- Back traceability guaranteed through the production batch, mandatory in some legislative areas
- Non-invasive marking of the production batch or other useful indications on the finished piece.



Cert. N°372 – UNI EN ISO 9001:2015
Quality Management System

FFGL srl vanta per la sua gamma di prodotti le seguenti certificazioni ed omologazioni:

FFGL srl claim the following certifications and approvals on his products:

- **Food contact compliance MOCA/FCMs:**
 - D.P.R. 777 dated 23/08/1982 , D.L. 108 dated 25/01/1992, D.M. 34 dated 21/03/73.
 - Regulation 1935/2004/EC GUCE L 338 dated 13/11/04 and 1895/2005/EC GUCE L 302 dated 19/11/2005.
 - Regulation 10/2011/UE, GUUE L 12 dated 15/01/2011 and subsequent updating.
 - UNI EN 1186-1 ÷ 15:2003
 - Food contact compliance: FDA 21 cfr. § 177.1550
- **ADI Free** (Animal Derived Ingredients Free),
- **BSE/TSE Free** (bovine sponge encephalitis / transmissible sponge encephalitis)
- **EC2023/2006** (GMP)
- **USP CLASS VI 121°C** compliance in according to USP 43 NF 38 2020:
 - Cytotoxicity elution test according to USP <87>;
 - USP biological test according to USP <88>;
- **REACH 1907/2006 EC** European regulation: "Registration, Evaluation and Authorization of Chemicals"
- **RoHS 2011/65/EU**, ADI-free and other European directives about the regulation of substance hazardous for health
- **EC2023/2006** (GMP)
- **TA-Luft VDI 2440**



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