GUJARAT FLUOROCHEMICALS

VALUE THROUGH GREEN CHEMISTRY

An INOXGFL Group Company

INOFLON®

PTFE

FEP

PFA

INOFLAR®

PVDF

FLUOROPOLYMERS

About Us

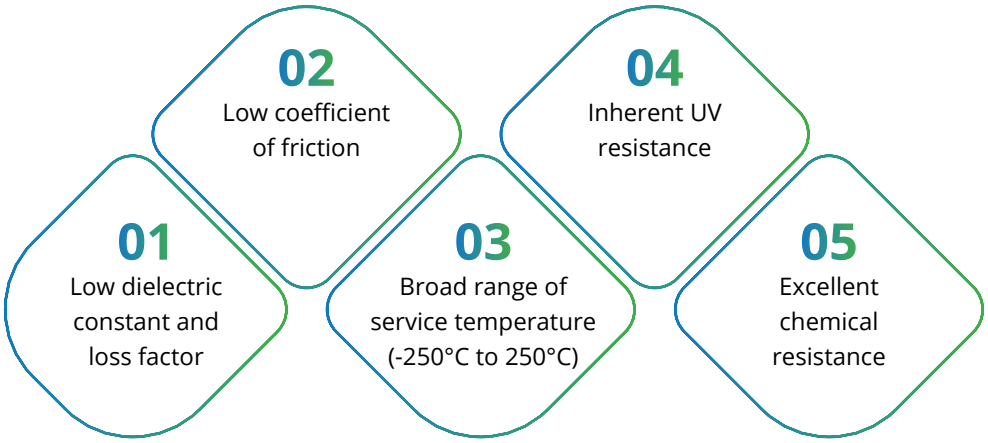
Gujarat Fluorochemicals Limited (GFL), is a part of the INOXGFL Group - an Indian Conglomerate with a legacy of more than a century. The group has diversified business segments comprising of Fluoropolymers, Speciality Chemicals, Battery Chemicals, Wind Energy and Renewables.

GFL is a leading producer of Fluoropolymers, Fluoro specialities, Refrigerants and Chemicals for applications in varied industries. GFL derives its strength from expertise in Fluorine Chemistry, vertical integration from natural minerals to Fluoropolymers and strong R&D, enabling us to provide one of the best quality products meeting all regulatory compliances, to our clientele globally. GFL started with India's largest Refrigerant manufacturing unit at Ranjitnagar, Gujarat, India. Foraying into new avenues in 2007, with one of the world's most integrated facilities at Dahej, Gujarat, India, GFL now has a diverse portfolio of Fluoropolymers comprising PTFE, PFA, FKM, PVDF and Fluoropolymer Additives. By setting up capacities for materials (Fluoropolymers and Speciality Chemicals) catering to new growth sectors, the group is extending its reach into EVs, Solar Energy and Hydrogen Fuel Cells. Several capacities are being set up at GFL including those for PVDF used as cathode binders in EV batteries, chemicals for EV batteries and membranes for Hydrogen Electrolysers.

With three manufacturing facilities in India, a captive Fluorspar mine in Morocco, offices and warehouses in Europe and the USA, and a marketing network spread across the world, GFL is one of the most established players in Fluoropolymers and Fluorospecialities markets globally.

Granular Virgin PTFE Resins

PTFE has an impressive array of following properties that makes it a material of choice for various demanding applications:



Grades and Applications

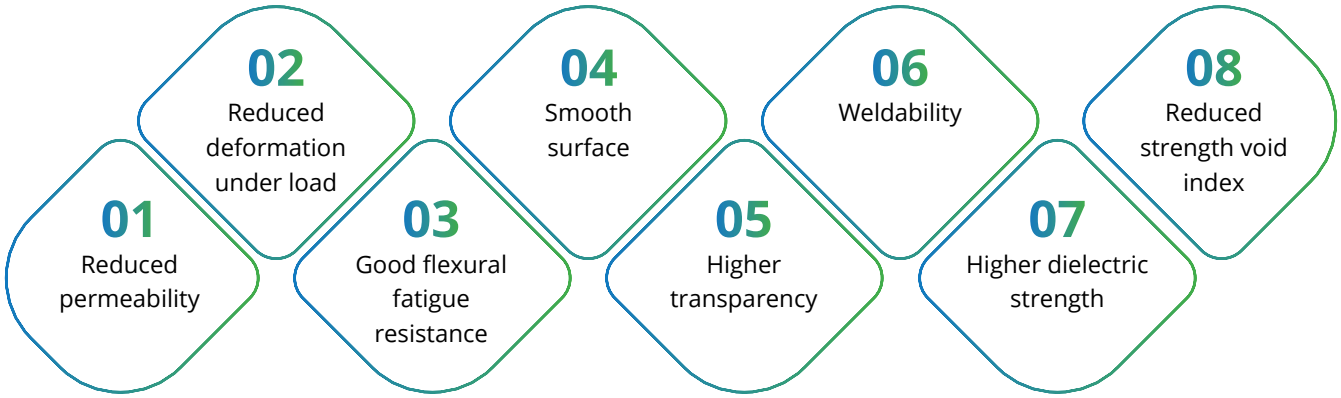
Grades	Characteristics	Applications
INOFLON® 610/630/640 (Low Flow)	Fine particle size with narrow distribution High tensile and elongation	General moulding Skived film and sheet compounding
INOFLON® 210/220/230 (Free Flow)	Good flow High bulk density Good mould filling behaviour	Automatic and isostatic moulding of parts Moulded sheets Small diameter and thin wall thickness tube
INOFLON® 510/515 (Pre-sintered)	Narrow particle size with distribution Good flow Homogeneously sintered powder	For making continuous profiles (rods and tubes) by Ram extrusion

Typical Properties

Properties	Test Method	Unit	Nominal Value							
			610	630	640	210	220	230	510	515
			Low Flow			Free Flow			Pre-sintered	
Bulk density	ASTM D 4894	g/l	450	350	325	700	775	750	500	600
Avg. particle size	ASTM D 4894	µm	190	32	23	600	500	300	575	150
Mould shrinkage	ASTM D 4894	µm	3.25	3.5	4	2.50	2.25	2.25	-	-
Powder flow	ASTM D 1895	g/min	-	-	-	400	400	-	300	-
Std. specific gravity	ASTM D 4894	-	2.155	2.155	2.155	2.155	2.155	2.155	2.155	2.155
Melting points	ASTM D 4894	°C (°F)	342 (648) 327 (621)	342 (648) 327 (621)	342 (648) 327 (621)	342 (648) 327 (621)	342 (648) 327 (621)	342 (648) 327 (621)	327 (621) 327 (621)	327 (621) 327 (621)
Tensile Strength	ASTM D 4894	MPa (psi)	25 (3626)	30 (4351)	35 (5076)	30 (4351)	30 (4351)	30 (4351)	20 (3336)	- -
Elongation	ASTM D 4894	%	250	325	350	275	275	275	200	-

Granular Modified PTFE Resins

Modified PTFE is chemically modified and has the following improved properties over virgin PTFE:



Grades and Applications

Grades	Characteristics	Applications
INOFLON® M 690/M 695 (Low Flow)	Fine particle size with narrow distribution	Skived film and sheet compounding
INOFLON® 280/M 290/M 295 (Free Flow)	Good flow High bulk density Good mould filling behaviour	Automatic and isostatic moulding of parts Ram extrusion of rods and tubes

Typical Properties

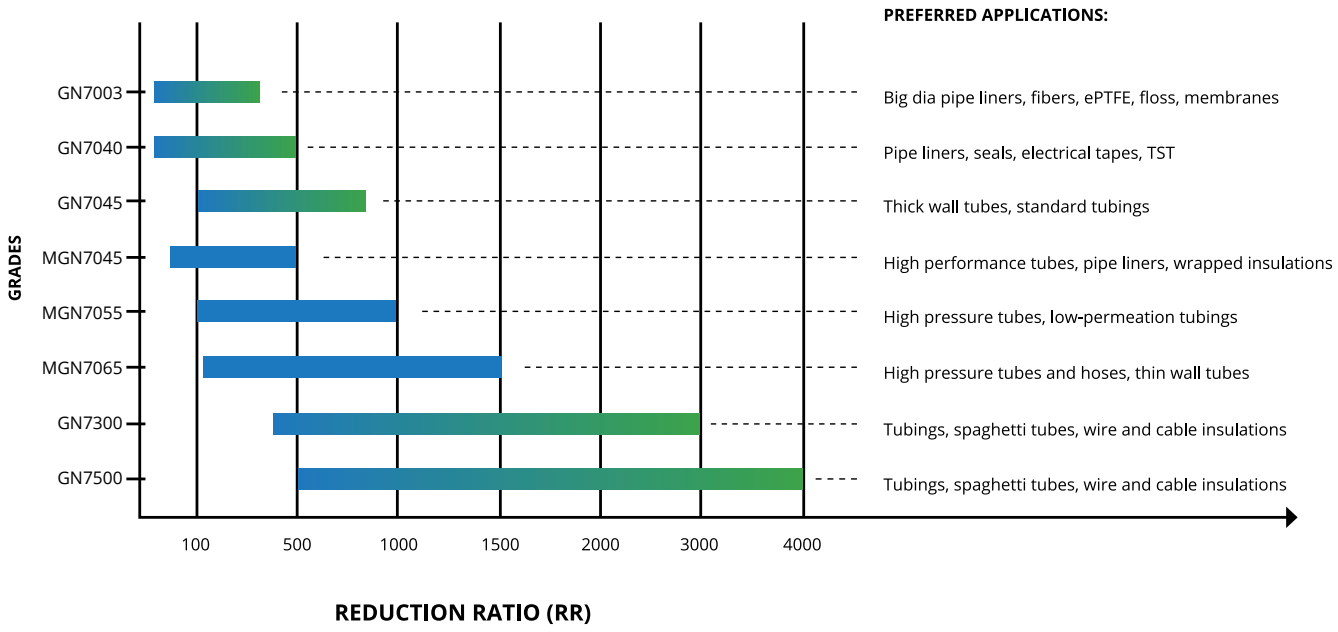
Properties	Test Method	Unit	INOFLON® M 690	INOFLON® M 695	INOFLON® M 280	INOFLON® M 290	INOFLON® M 295
Particle size (d50)	ASTM D 4894	µm	25	25	500	475	475
Bulk density	ASTM D 4894	g/l	350	350	700	750	700
Flowability	Mod. ASTM D 1895	g/min	-	-	400	400	400
Std. specific gravity	ASTM D 4894	-	2.155	2.160	2.160	2.155	2.160
Tensile strength (Min.)	ASTM D 4894	MPa	30	30	20	30	30
Elongation (Min.)	ASTM D 4894	%	450	450	450	450	450
Mould shrinkage (Max.)	ASTM D 4894	%	5	5	-	4	4
Flex life	ASTM D 2176	Cycles	$7x10^7$	-	-	$7x10^7$	-
Dielectric strength	ASTM D 149	kV/mm	90	95	-	80	80
Deformation under load (14 MPa)	ASTM D 621	%	5	4	-	4	4.1

Note: These are typical properties and not to be used for specification purpose.

Fine Powder PTFE Resins

Fine Powder PTFE Resins are polymerised in an aqueous dispersion medium made from environmental friendly emulsifier. Fine Powder PTFE Resins are milky white polymers obtained from coagulating dispersions. Hydrocarbon oils are used for processing Fine Powder PTFE Resins. They offer an impressive array of the following properties that make them the material of choice for various demanding applications. Fine Powder PTFE Resins are PFOA/PFOS free.

Fine Powder Product Portfolio



Important Properties (GN/MGN Grades)

- High dielectric strength
- Good dimensional stability
- Good fibrillation
- Good mechanical properties and ease of processability
- Chemically inert to most industrial chemicals and solvents
- Low gas permeability
- High flex life
- Low friction and non-stick surface
- High stress cracking resistance
- Good transparency
- High burst strength
- Good surface finish
- Good weldability

Typical Properties - GN Grades

Properties	Test Method	Unit	Nominal Value				
			GN7003	GN7040	GN7045	GN7300	GN7500
Bulk density	ASTM D 4895	g/l	500	500	475	475	450
Avg. particle size (d50)	ASTM D 4895	µm	525	525	475	475	475
Extrusion pressure [Reduction ratio]	ASTM D 4895	MPa (psi)	42 (6092) [RR 400:1]	35 (5076) [RR 400:1]	22 (3191) [RR 400:1]	42 (6092) [RR 1600:1]	28 (4061) [RR 1600:1]
Std. specific gravity	ASTM D 4895	-	2.155	2.175	2.18	2.175	2.175
Tensile strength	ASTM D 4895	MPa (psi)	33 (4786)	33 (4786)	33 (4786)	33 (4786)	30 (4351)
Elongation	ASTM D 4895	%	330	330	330	350	300

Note: These are typical properties and not to be used for specification purpose.

Typical Properties - MGN Grades

Properties	Test Method	Unit	Nominal Value		
			MGN7045	MGN7055	MGN7065
Bulk density	ASTM D 4895	g/l	500	500	475
Avg. particle size (d50)	ASTM D 4895	µm	500	475	450
Extrusion pressure [Reduction ratio]	ASTM D 4895	MPa (psi)	29 (4206) [RR 400:1]	22 (3191) [RR 400:1]	45 (6527) [RR 1600:1]
Std. specific gravity	ASTM D 4895	-	2.149	2.151	2.153
Tensile strength	ASTM D 4895	MPa (psi)	33 (4786)	33 (4786)	32 (4641)
Elongation at break	ASTM D 4895	%	330	330	350

Note: These are typical properties and not to be used for specification purpose.

PTFE Aqueous Dispersions

Fluoropolymer dispersions are polymerised in an aqueous dispersion medium made from an environmentally friendly emulsifier and consist of very small particles of fluoropolymer resin. The dispersions are stabilised in water by non-ionic surfactants and are produced without the use of PFAS as polymerisation aids. They offer an impressive array of following properties that makes them the material of choice for various demanding applications.

Grades and Applications

Grades	Characteristics	Applications
AD9100EX	Good wetting properties Good penetration properties Good weatherability	Belting, architectural fabric and gaskets, packing seals and gaskets, industrial fabric, yarns and filter cloth
AD9200EX	High gloss Very good abrasion resistance Good corrosion resistance High shear stability	Formulations of high-performance cookware and industrial coating
AD9300EX	Good impregnation Low foaming Good weatherability	Architectural fabric and gaskets, packing seals and gaskets, industrial fabric, yarns and filter cloth, anti-dripping and impregnation of graphite block

Typical Properties

Properties	Test Method	INOFLON® AD9100EX	INOFLON® AD9200EX	INOFLON® AD9300EX
Solid content (%)	ASTM D 4441	60	60	60
Surfactant by PTFE basis (%)	ASTM D 4441	7	6	6
pH	ASTM E-70	>9.5	>9.5	>9.5
Specific gravity	ASTM D 4441	1.51	1.51	1.51

Note: These are typical properties and not to be used for specification purpose.

Perfluoroalkoxy (PFA)

Pellet

- Service temperature up to 260 °C
- Excellent dielectric properties
- Superior creep resistance at high temperature
- Excellent chemical and weather resistance

Grades / Test Method	Process Methods	Melt Flow Rate (g/10 min) ASTM D 1238	Specific Gravity ASTM D 792	Melting Point (°C) ASTM D 4591	Tensile Strength (MPa) ASTM D 3307	Elongation (%) ASTM D 3307	Applications
PFA 8003	Extrusion, compression and transfer moulding	2.3	2.15	307	28	300	Tubes, linings (pipes/valves/ fittings) and transfer moulded articles
PFA 8003HS	Extrusion, compression and transfer moulding	2.3	2.15	307	28	300	Tubes, linings (pipes/valves/ fittings) and transfer moulded articles and semiconductor components
PFA 8015	Extrusion, injection and compression	13	2.15	307	25	300	Extruded tubes and profile for hoses jacketing, wire and cable insulation
PFA 8015HS	Extrusion, injection and compression	13	2.15	307	25	300	Extruded tubes and profile for hoses jacketing, wire and cable insulation, semiconductor components

HS is modified grade of 8003 and 8015 with high purity, improved flex life and environmental stress cracking resistance.

Note: These are typical properties and not to be used for specification purpose.

Powder

- Excellent chemical resistance
- Outstanding electrostatic characteristics
- Good transparency
- Excellent non-stick performance

Grades	Process Methods	Melt Flow Rate (g/10 min)	Particle Size (µm)	Bulk Density (g/l)	Specific Gravity	Melting Point (°C)	Tensile Strength (MPa)	Elongation (%)	Applications
Test Method		ASTM D 1238	Internal	ASTM D 1895	ASTM D 792	ASTM D 4591	ASTM D 3307	ASTM D 3307	
PFA 8103	Electrostatic powder spray	2.3	7	500	2.15	307	28	300	Powder coating for chemical and industrial equipment, cookware & bakeware
PFA 8115	Electrostatic powder spray	10	7	500	2.15	307	25	275	Powder coating for chemical and industrial equipment, cookware & bakeware

Note: These are typical properties and not to be used for specification purpose.

Dispersion

- Non-stick properties
- Inert to chemicals and solvents
- Excellent surface release properties
- Excellent weatherability

Grades	Process Methods	Melt Flow Rate (g/10 min)	Solid Content (%PFA resin by weight)	%Surfactant Content on PFA Solid	Specific Gravity	pH of Dispersion	Melting Point (°C)	Applications
Test Method		ASTM D 1238	ASTM D 4441	ASTM D 4441	ASTM D 792	ASTM D 70	ASTM D 4591	
PFA 8900	Dipping impregnating spraying	15	50	6	1.4	>9.5	307	Coating and impregnating glass fibre fabrics, metal substrate, woven packing
PFA 8910	Dipping impregnating spraying	2	60	6	1.5	>9.5	307	Coating and impregnating glass fibre fabrics, metal substrate, woven packing

Note: These are typical properties and not to be used for specification purpose.

Fluorinated Ethyelene Propylene (FEP)

Dispersion

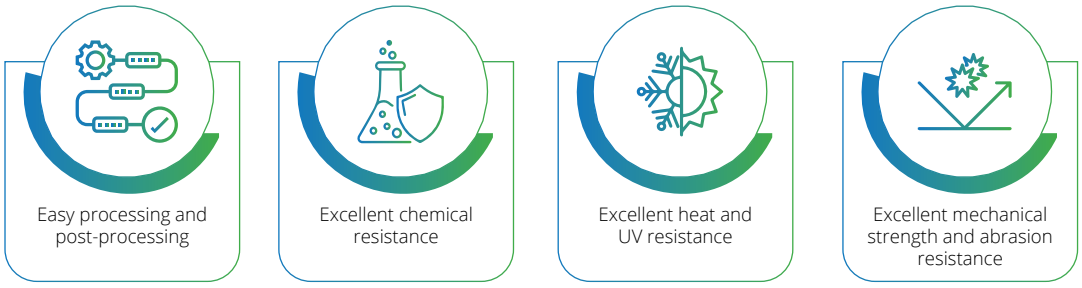
Grades	Process Methods	Melt Flow Rate (g/10 min)	Solid Content (%PFA resin by weight)	%Surfactant Content on PFA Solid	Specific Gravity	pH of Dispersion	Melting Point (°C)	Applications
Test Method		ASTM D 1238	ASTM D 4441	ASTM D 4441	ASTM D 792	ASTM D 70	ASTM D 4591	
FEP 4910	Dipping impregnating spraying	10	55	6.50	1.45	>9.5	270	Coating and impregnating glass fibre fabrics, metal substrate, woven packing

Note: These are typical properties and not to be used for specification purpose.

INOFLAR® PVDF PELLETS

INOFLAR® PVDF resins exhibit exceptional mechanical performance and abrasion resistance, high thermal resistance and low permeability along with very good chemical resistance inherent to Fluoropolymers, making them an ideal choice for contact surface material for corrosive fluids. INOFLAR® pellet grades are melt processable PVDF resins with excellent processability and can be processed using conventional equipment used for commodity polymers like Polyolefins. INOFLAR® pellet grades are widely used for manufacturing of piping system components such as pumps, valves, fittings and pipes. They are also used for manufacturing of sheets for lining of vessels and tanks, tower packing, filaments and films.

Standard processing temperatures of INOFLAR® pellet grades mostly do not exceed 250 °C and are safe to process as the decomposition temperatures are >350 °C. INOFLAR® PVDF pellets are hydrophobic and pre-drying is generally not required unless exposed to highly humid environments. With their lower melt viscosities, INOFLAR® 1005 and INOFLAR® 1011 are generally more suitable for injection moulding, whereas INOFLAR® 1017 & INOFLAR® 1020 are preferred for extrusion, but are also suitable for injection moulding.



INOFLAR® PVDF PELLETS

INOFLAR® Grade	Melting Point (ASTM D 3418)	Melt Viscosity (ASTM D 3835)	Melt Flow Rate (ASTM D 1238)	MFR Load	Process				Typical Uses
	°C	K Poise	g/10 min	kg	Compression Moulding	Transfer Moulding	Injection Moulding	Extrusion	
1005	165 – 172	4 – 8	16 – 30	5		√	√	√	Pumps, valves, fittings, tower packings, films
1011	165 – 172	8 – 12	8 – 16	5		√	√	√	Pumps, valves, fittings, films, filaments
1017	165 – 172	12–18	3 – 8	5	√	√	√	√	Pressure pipes, sheets, stock shapes, pumps, valves, filaments
1020	165 – 172	18 – 23	1.5 – 3	5	√	√	√	√	Pressure pipes, rods, stock shapes, sheets, filaments

INOFLAR® PVDF PELLETS

INOFLAR® Grade		1005	1011	1017	1020	Method
Property	Unit	Value	Value	Value	Value	
Specific Gravity		1.76 – 1.79	1.76 – 1.79	1.76 – 1.79	1.76 – 1.79	ASTM D 792
Water Absorption	%	< 0.04	< 0.04	<0.04	< 0.04	ASTM D 570
Melt Mass Flow Rate (230 °C, 5 Kg Load)	g/10min	16 – 30	8 – 16	3 – 8	1.5 – 3	ASTM D 1238
Molding Shrinkage - Flow	%	< 3	< 3	<3	< 3	Internal Method
Tensile Modulus	MPa	1400 – 2300	1400 – 2300	1400 – 2300	1400 – 2300	ASTM D 638
Tensile Strength (Yield)	MPa	45 – 55	45 – 55	45 – 55	45 – 55	ASTM D 638
Tensile Strength (Break)	MPa	35 – 50	35 – 50	35 – 50	35 – 50	ASTM D 638
Tensile Elongation (Yield)	%	5 – 10	5 – 10	5 – 10	5 – 10	ASTM D 638
Tensile Elongation (Break)	%	> 20	> 20	>20	> 20	ASTM D 638
Taber Abrasion Resistance (1000 cycles, 1000 g, CS-17 Wheel)	mg	5 – 10	5 – 10	5 – 10	5 – 10	ASTM D 4060
Flexural Modulus (23 °C)	MPa	1400 – 2300	1400 – 2300	1400 – 2300	1400 – 2300	ASTM D 790
Compressive Strength (23 °C)	MPa	65 – 100	65 – 100	65 –100	65 – 100	ASTM D 695
Durometer Hardness (Shore D, 1 sec, 2,00 mm)		73 – 80	73 – 80	73 – 80	73 – 80	ASTM D 2240
Glass Transition Temperature	°C	–40	–40	–40	–40	ASTM D 4065
Melting Temperature	°C	165 – 172	165 – 172	165 – 172	165 – 172	ASTM D 3418
Deflection Temperature under load (1.80 Mpa)	°C	105 – 110	105 – 110	105 – 110	105 – 110	ASTM D 648
Deflection Temperature under load (0.45 Mpa)	°C	125 – 140	125 – 140	125 – 140	125 – 140	ASTM D 648
Vicat Softening Temperature	°C	140	140	140	140	ASTM D 1525
Thermal Stability (1% Weight loss in Air)	°C	> 375	> 375	> 375	> 375	TGA
Volume Resistivity	Ohm-m	1×10^{12}	1×10^{12}	1×10^{12}	1×10^{12}	ASTM D 257
Dielectric Strength (23 °C, 1.00 mm)	kV/mm	20 – 25	20 – 25	20 – 25	20 – 25	ASTM D 149
Oxygen Index	%	> 44	> 44	>44	> 44	ASTM D 2863

INOFLAR® PVDF POWDER

INOFLAR® PVDF powders are easily solvable in polar solvents such as NMP and are excellent material of choice for applications such as binders for Lithium-ion batteries and filtration membranes.

The higher surface area to volume ratio of INOFLAR® PVDF powder aids easier and faster dissolution of PVDF in solvents.

INOFLAR® PVDF powder resins dissolve with comparative ease in the following solvents:

Active solvents		Latent solvents
Solubility ≈ 5 - 10% (w/w) @ 25 °C		Solubility < 1% (w/w) @ 25 °C
N-methylpyrrolidone (NMP)	Tetramethyl Urea	Acetone
Dimethylacetamide (DMAC)	Dimethyl Sulfoxide (DMSO)	Tetrahydrofuran
Dimethylformamide (DMF)	Trimethyl Phosphate	Methyl Ethyl Ketone

Applications of INOFLAR® PVDF Powder

INOFLAR® PVDF grade	Application
1125	Flat sheet membranes
1135	Hollow fibre and tubular membranes
5125	Coating

INOFLAR® PVDF RESINS FOR MEMBRANE

INOFLAR® PVDF resins have exceptional chemical resistance, mechanical strength and durability–making it a choice of material for manufacturing membranes, which are to be exposed in brackish and corrosive environments such as industrial wastewater treatment compared to material like cellulose acetate, PP, PES and PESU media. INOFLAR® PVDF resins have excellent chemical resistance to harsh chemicals such as chlorine, bromine, hydrogen peroxide, ozone, alcohols, sodium hypochlorite, chlorine dioxide, inorganic acids and organic acids, which reduces the lifecycle costs and breakage of membranes during cleaning operations.

INOFLAR® PVDF resins for membrane are NSF-61, USP Class VI certified, allowing them to be used in bio-medical, food and water contact applications.

INOFLAR® PVDF resins are available in powder form and are readily soluble in polar solvents NMP, DMAC and DMF making processing easy by phase-inversion. High viscosity ensures easy spinning operations by NIPS and TIPS. A variety of configurations such as hollow-fibre, tubular and flat sheet membranes are possible for MBR, UF and MF filtration applications.

Grade	Form	Melting Point (ASTM D 3418) °C	Melt Viscosity (ASTM D 3835) K Poise	Melt Flow Rate (ASTM D 1238) g/10 min	MFR Load kg	Application		Typical Uses
						NIPS	TIPS	
INOFLAR® 1125	Powder	165-172	N/A in TDS	2-6	12.5	✓	✓	Flat sheet membranes
INOFLAR® 1135	Powder	160-165	N/A in TDS	2-6	21.6	✓	✓	Hollow fibre & tubular membranes

INOFLAR® PVDF RESINS FOR COATINGS

INOFLAR® 5125 resin is a high molecular weight homopolymer of Vinylidene Fluoride used as the base resin in long-life coatings for Aluminum, Galvanised Steel and Aluminised Steel. Applications include metal roofing and siding, window and door frames, curtain wall and other miscellaneous metal trim and components.

INOFLAR® 5125 powders exhibit excellent resistance to UV, dirt and mildew. They offer superior weatherability characteristics and are suitable for both solvents based and non-solvent based coating formulations and should impart longevity and greater colour retention to the coated substrates.

INOFLAR® 5125 PVDF for Coatings

Property	Unit	Value	Method
Water Absorption	%	< 0.04	ASTM D 570
Moisture	%	< 0.5	Internal
Melt Flow Rate (230 °C; 12.5 kg load)	g/10min	2 - 6	ASTM D 1238
Melting Temperature	°C	165 - 170	ASTM D 3418
Gloss		> 25	ASTM D 523

END CORROSION. MAXIMISE RELIABILITY.

GFL Advanced Fluoropolymer Linings – PTFE, PFA & PVDF for Critical Chemical Processing

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The Challenge: Corrosion in Chemical Processing

In the Chemical Processing Industry (CPI), process equipment is routinely exposed to highly aggressive environments involving concentrated acids, strong bases, oxidising chemicals and organic solvents, often operating at elevated temperatures and varying pressures.

Under such conditions, even high-alloy metals can experience pitting corrosion, stress corrosion cracking and gradual material degradation, leading to premature equipment failure. The consequences for plant operations can be significant:

- **Unplanned Downtime:** Production losses due to equipment failure and maintenance shutdowns
- **Operational & Safety Risks:** Potential leaks, spills and system failures
- **Process Contamination:** Metal ion leaching affecting sensitive process streams

Ensuring long-term corrosion protection is therefore essential for maintaining process integrity, operational safety and plant reliability.

The GFL Solution: Advanced Fluoropolymer Linings

GFL manufactures high-performance fluoropolymers including PTFE, PFA and PVDF, widely used in lining applications for pipes, fittings, valves, vessels and reactors across the chemical industry.

When used as internal linings, these advanced fluoropolymers create a chemically inert barrier between the metal substrate and the process media. This effectively prevents corrosion, protecting critical infrastructure and significantly extending equipment service life.

With their exceptional molecular stability, fluoropolymers offer near-universal chemical resistance, making them ideal for handling some of the most aggressive chemicals encountered in CPI operations.

Key Advantages of GFL Fluoropolymers in Lining Applications

- **Outstanding Chemical Resistance:** Compatible with a wide range of aggressive acids, alkalis and solvents
- **High Purity & Non-Contaminating**: Inert materials that prevent product contamination
- **Wide Temperature Stability**: Reliable performance across demanding operating conditions
- **Smooth, Non-Stick Surface**: Reduces scaling, fouling and pressure drop in pipelines
- **Extended Equipment Life**: Protects metallic infrastructure and reduces lifecycle costs

Protect your process infrastructure with GFL's fluoropolymers proven in lining technology.

The following case studies demonstrate the performance of GFL PTFE, PFA and PVDF in combating corrosion across different chemical processing environments.

PTFE Lined Spool Pipe

PFA LINED – Fitting

PTFE/PFA Lined – Ball Valves

Case Study 1: Fluoropolymers Lined Pumps

For critical pumping applications involving aggressive chemicals, traditional metallic pumps are costly and prone to operational downtime. GFL solves this by using PFA/PVDF for Lined Pumps, which deliver a cost-effective, serviceable and sustainable solution.

Application: Pure brine pump, Lean brine pump, Polished brine pump, Clarified brine pump, Acidified brine pump, Anolyte brine and Hypo solution pumps.

Challenge: Traditional Metallic pumps used in chlorinated brines are very costly, required more maintenance, difficult to handle and service support issues leads to operational downtime.

Solution: PFA/PVDF lined Pumps meet the process requirements even at high temperature and pressure combinations in corrosive environments. This is cost effective serviceable and easily available.

Benefits:

- Superior chemical resistance
- Lower permeability
- Withstands high temperature
- Increased sustainability

PFA Lined Pumps

Case Study 2: Fluoropolymers Roto Lining

A computerised controlled lining technology using rotational movement of equipment along with sintering process.

Application:

Chemical Processing Industries, Pulp and paper processing, Wastewater treatment, Metal preparation, Petrochemicals, Food and beverage, Pesticides, General chemical processing, Nuclear waste processing, Pharmaceutical/Biotech

Challenge: Various Glass Lined/Coated equipments, reactors, process vessels have limitations of lower life, lower wall thickness, high maintenance in case of any cracks/peeling off and lower life.

Solution: PVDF and PFA based roto lining of such reactors and equipments creates a metal bonded, seamless and virtually uniform lining having thickness from 0.5mm to 6mm.

Benefits:

- Longer life
- Outstanding barrier properties
- Resistant to prominent harsh chemicals
- In situ and on-site repairs
- Ease of handling
- Quick delivery
- Direct bonding with metal
- Suitable for full vacuum application too
- Superior corrosion resistance to condensed bromine

Roto-lined Storage Tanks

Case Study 3: Antistatic PTFE & PFA Lined Products

Preventing ignition risks from static discharge is crucial, and GFL addresses this with Antistatic PTFE and PFA lined products that safely dissipate electrical charges. These proven linings are engineered to eliminate dangerous buildup on the bore surfaces of your critical piping components.

Application: Lined pipes & fittings, valves etc. handling highly exothermic, flammable chemicals and process media.

Challenge: (if any) Chemical plant accidents often arise from the ignition of flammable chemicals. A primary cause is the generation of higher voltages that produce electrical sparks and static charge during processing, posing significant safety risks.

Solution:

High performance Antistatic fluoropolymers with its unique properties help to dissipate any charge that builds up.

Recommendation of GFL trusted applicator/processors.

Benefits:

- Highly antistatic, speciality compound
- Superior chemical resistance
- Withstands high temperature
- Increased sustainability

PFA-lined Valves & Bends

RESEARCH & DEVELOPMENT

GFRC

Gujarat Fluoropolymers Research Centre (GFRC) located at Dahej, India, is at the forefront of product and application development activities and serves as an essential bridge between market requirements and manufacturing operations. It focuses on offering genuine expertise and prompt customer support on Fluonox® products.

GFRC, a team of research scientists and product specialists, is equipped with state-of-the-art application development laboratory including DCS operated pilot reactors. It has collaborated with renowned research institutes globally to work on the areas of new product development and sustainable manufacturing technologies. With this, the centre focuses on delivering customised Fluoropolymer products for novel applications and on developing manufacturing technologies, which have minimal impact on the environment, thereby ensuring a sustainable future for the next generation.

Core Functions of GFRC

Customer Support	Production Support	Quality Support
Technical service	Product development	Functional testing
Records and citations	Process optimisation	Certifications and regulatory compliances
Pre-sales documentation	Analytical support	Statistical analysis and control
Development of processing guidelines		Customer on-site audits
Application development		Customer feedback analysis
Product literature		Compliance to quality agreements

Regulatory Compliance

GFL is committed to “Green Chemistry” and offers environment-friendly products using sustainable technologies. Our extensive research and development in the field of Fluoropolymers enable us to comply with all major global regulations and facilitate our customers to choose greener products manufactured by sustainable technologies.

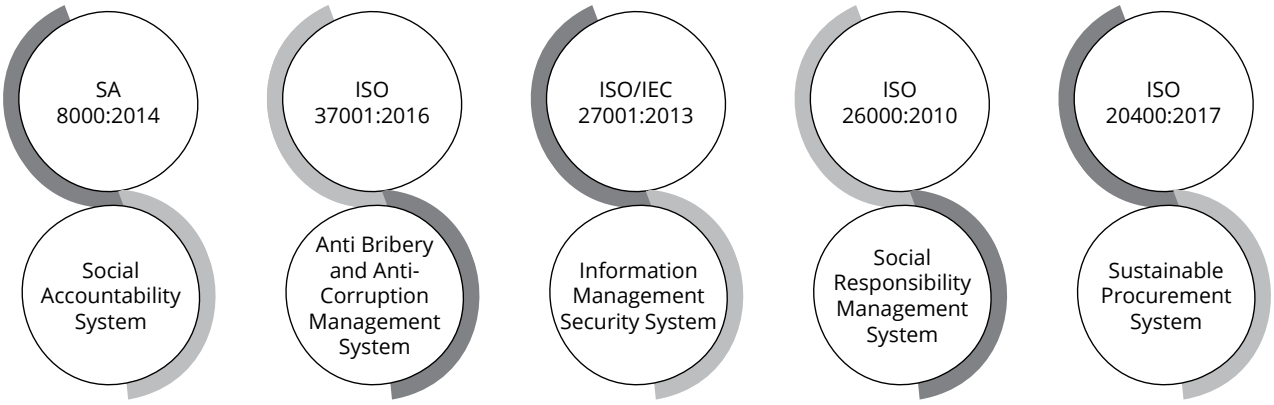
REACH - Registration, Evaluation, Authorization and Restriction of Chemicals

ROHS - Restriction of Hazardous Substances

SVHC - Substances of Very High Concern

Sustainability

GFL is committed to social, environmental and economic sustainability through responsible processes, practices and greener initiatives not only in our products but also in our principles. While consistent operating results and strong financial performance are a business imperative, pursuing success while keeping Health and Safety paramount, remains one of our enduring values. The Company measures the impact of its business operations through the 3 key pillars of sustainability, namely People, Planet & Profit.



Global presence

Warehouses

Gujarat, India
New Jersey, USA
Arizona, USA
Ohio, USA
Hamburg, Germany
Brescia, Italy

Corporate HQ

Noida, India

Subsidiary

Hamburg, Germany
Texas, USA

Manufacturing

Dahej, Gujarat, India
Ranjitnagar, Gujarat, India
Morocco

Sales & Distribution

Americas: Michigan, Philadelphia, Atlanta, New Jersey, Mexico, Brazil and Argentina

EU: Italy and Germany

ROW: India, South Africa, Thailand, China, Korea, Taiwan and Japan

Notes:

CORPORATE HQ
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GUJARAT FLUOROCHEMICALS
VALUE THROUGH GREEN CHEMISTRY

An INOXGFL Group Company