

FLUONOX[®]
Fluoroelastomers

Engineered for
demanding applications



Make Fluonox[®] your new choice in fluoroelastomers



ABOUT THE COMPANY

Gujarat Fluorochemicals Limited (GFL), is a part of the INOXGFL Group - an Indian Conglomerate with a legacy of more than 90 years. The group has diversified business segments comprising of Fluoropolymers, Speciality 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 USA, and a marketing network spread across the world, GFL is one of the most established players in Fluoropolymers and Fluorospecialities markets globally.

CURE INCORPORATED COPOLYMERS

Grade	Fluorine Content (%)	TR 10 (°C/F)	Mooney Viscosity, ML (1+10) @ 121°C (250 F)	Hardness (Shore A)	Tensile Strength* MPa (psi)	Elongation at Break* (%)	Compression Set* (%)	Product Description	Remarks
	Internal NMR	ASTM D 1329	ASTM D 1646	ASTM D 2240	ASTM D 412C		ASTM D 395 Method B		
KB 2250Z	66.0	-18*(0)	25	74	14.2 (2060)	240	25	Excellent mold flow, tear resistance, bonding to metal	Injection molding of complex shapes - Metal bonding
KB 2252	66.0	-18*(0)	25	73	13.4 (1944)	260	18	Excellent mold flow, high elongation/ tear resistance	Injection molding of complex or extruded shapes
KB 2253	66.0	-18*(0)	25	76	14.0 (2031)	200	17	Fast cure rate, excellent mold release	Injection molding, O-rings, gaskets
KB 2255	66.0	-18*(0)	25	75	13.5 (1958)	180	16	Outstanding compression set	Injection molding, O-rings, gaskets. Improved compression set than KB 2253
KB 2259F	66.0	-18*(0)	25	75	14.0 (2031)	175	13	Very good Compression set	Injection molding O-rings, gasket with best compression set
KB 2400Z	66.0	-18*(0)	40	75	13.2 (1914)	250	25	Excellent mold flow, tear resistance, bonding to metal	Injection/ compression molding of metal-bonded parts
KB 2402	66.0	-18*(0)	40	74	14.4 (2089)	250	18	Excellent mold flow, high elongation/ tear resistance	Injection/ compression molding of complex shapes
KB 2403	66.0	-18*(0)	40	77	14.0 (2031)	190	17	Excellent resistance to compression set	Compression, transfer or injection molding of O-rings
KB 2452	66	-18 (-0.4)	45	74	14 (2030)	250	17	Excellent mold flow, high elongation/ tear resistance	-
KB 2453	66	-18 (-0.4)	45	77	15 (2175)	190	15	Fast cure rate, excellent mold release	-

BISPHENOL/DIAMINE CURABLE TERPOLYMERS RAW GUMS

Grade	Fluorine Content (%)	TR 10 (°C/F)	Mooney Viscosity, ML (1+10) @ 121°C (250 F)	Hardness (Shore A)	Tensile Strength* MPa (psi)	Elongation at Break* (%)	Compression Set* (%)	Product Description	Remarks
	Internal NMR	ASTM D 1329	ASTM D 1646	ASTM D 2240	ASTM D 412C		ASTM D 395 Method B		
KR 325	68.0	-14 (7)	25	74	12.6 (1827)	195	22	Improved chem. resistance vs Copolymers. Excellent processability	General purpose
KR 370	68.0	-14 (7)	70	76	14.3 (2074)	240	20	High viscosity version of KR 325	Compression molding of oil seals, general purpose
KR 435	68.5	-13 (9)	35	77	12.5 (1813)	200	28	Excellent chemical resistance	Injection molding, coating by solution
KR 470	68.5	-13 (9)	70	76	14.0 (2031)	205	28	High viscosity version of KR 435	Compression molding of oil seals, general purpose

CURE INCORPORATED TERPOLYMERS

Grade	Fluorine Content (%)	TR 10 (°C/F)	Mooney Viscosity, ML (1+10) @ 121°C (250 F)	Hardness (Shore A)	Tensile Strength* MPa (psi)	Elongation at Break* (%)	Compression Set* (%)	Product Description	Remarks
	Internal NMR	ASTM D 1329	ASTM D 1646	ASTM D 2240	ASTM D 412C	ASTM D 395 Method B			
KR 3300Z	68.0	-14 (7)	30	71	12.5 (1813)	230	27	Excellent tear resistance, bonding to metal	Injection molding of oil seals, metal bonding
KB 4202	69	-13 (9)	20	75	11 (1595)	275	35	Good choice extrusion products with Low viscosity Terpolymer and excellent chemical resistance	-
KB 4302	69	-13 (9)	30	77	13 (1885)	225	27	Low viscosity Terpolymer / Excellent chemical resistance / Good choice extrusion products	-
KB 4303	68.5	-13 (9)	30	75	12 (1740)	190	23	High cross-linking density, excellent compression set resistance	Injection molding of O-rings, gaskets
KB 4602	68.5	-13 (9)	60	75	13.2 (1914)	250	25	Medium cross-linking density, excellent tear resistance	Compression molding of complex shapes
KB 4603	68.5	-13 (9)	60	75	13.5 (1958)	195	23	High viscosity version of KB 4303	Compression molding of O-rings, gaskets
KB 5503	70.0	-7 (19)	48	78	14.0 (2031)	200	27	High viscosity, high fluorine, Moulding grade	Compression molding O-rings & gasket
KR 470	68.5	-13 (9)	70	76	14.0 (2031)	205	28	High viscosity version of KR 435	Compression molding of oil seals, general purpose

LOW TEMPERATURE BISPHENOL CURABLE

Grade	Fluorine Content (%)	TR 10 (°C/F)	Mooney Viscosity, ML (1+10) @ 121°C (250 F)	Hardness (Shore A)	Tensile Strength* MPa (psi)	Elongation at Break* (%)	Compression Set* (%)	Product Description	Remarks
	Internal NMR	ASTM D 1329	ASTM D 1646	ASTM D 2240	ASTM D 412C		ASTM D 395 Method B		
KR 630	66.0	-19 (-2)	30	75	13.5 (1958)	175	19	Low temperature Terpolymer with TR10 at -19°C (-2°F) - Raw gum	Injection molding, general purpose
KB 6253	66.0	-19 (-2)	25	76	14.0 (2031)	175	18	Low temperature Terpolymer with TR10 at -19°C (-2°F) - Cure incorporated	Compression, transfer or injection molding of O-rings

PEROXIDE CURABLE

PEROXIDE CURABLE TERPOLYMERS

Grade	Fluorine Content (%)	TR 10 (°C/F)	Mooney Viscosity, ML (1+10) @ 121°C (250 F)	Hardness (Shore A)	Tensile Strength* MPa (psi)	Elongation at Break* (%)	Compression Set* (%)	Product Description	Remarks
	Internal NMR	ASTM D 1329	ASTM D 1646	ASTM D 2240	ASTM D 412C		ASTM D 395 Method B		
KR 320P	67.0	-15 (5)	20	70	19.4 (2814)	250	23	Outstanding relaxation behavior	Injection molding - General purpose
KR 340P	67.0	-15 (5)	45	70	19.3 (2799)	280	25	Medium viscosity type of KR 320P	Compression molding - General purpose
KR 520P	70.0	-5 (23)	20	76	20.5 (2973)	210	21	High %F Peroxide cure Terpolymer - Best in class for chemical resistance	Injection molding - General purpose
KR 545P	70.0	-5 (23)	45	72	21.2 (3075)	210	24	Medium viscosity type of KR 520P	Compression molding - General purpose
KR 565P	70.0	-5 (23)	65	72	21.2 (3075)	210	24	High viscosity type of KR 520P	Compression molding - General purpose
KR 525LP	70.0	-5 (23)	25	73	20.0 (2900)	260	25	High % F, Liner peroxide grade	Extrusion, Injection Moulding
KR 621PLT	64	-30 (-22)	20	68	18 (2610)	200	21	Excellent low T properties (TR10 = -30°C) with reduced mould fouling and improved compression set and good mold release	
KR 651PLT	64	-30 (-22)	50	68	18 (2610)	200	20		

*Press cure condition: 10 min at 170°C (338 F)

Post cure conditions: Bisphenol curable grades: (8+16) hours at 230°C (446 F) // Peroxide curable grades: 4 hours at 230°C (446 F)

Test compounds:

Using Bisphenol Curable Raw Gum				Using bisphenol cure incorporated Copolymers/Terpolymers				Using peroxide curable Terpolymer raw gum			
Raw Polymer	100		Remarks	Precompound	100		Remarks	Peroxide curable raw gum	100		Remarks
Bisphenol AF	2	phr	>99,5%	N-990 carbon black	30	phr	Thermax N-990	N-990 carbon black	30	phr	Thermax N-990
BenzylTriPhenylPhosphonium Chloride	0.5	phr	>99,5%	Magnesium oxide	3	phr	Kyowamag 1 50	Luperox 101XL45	3	phr	Arkema
N-990 carbon black	30	phr	Thermax N-990	Calcium hydroxide	6	phr	OMM-2	TAIC (100%)	3	phr	>99,0%
Magnesium oxide	3	phr	Kyowamag 1 50					Zinc Oxide (ZnO)	5	phr	>99,0%
Calcium hydroxide	6	phr	OMM-2								

RESEARCH & DEVELOPMENT

GFRC

Gujarat Fluoropolymers Research Center (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 Inoflar® 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 Optimization	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



NSF International- National Sanitation Foundation



EC 1935/2004 - European Commission



EC 10/2011 - European Commission



ROHS - Restriction of Hazardous Substances



FDA - Food and Drug Administration



USP Class VI - United States Pharmacopeia



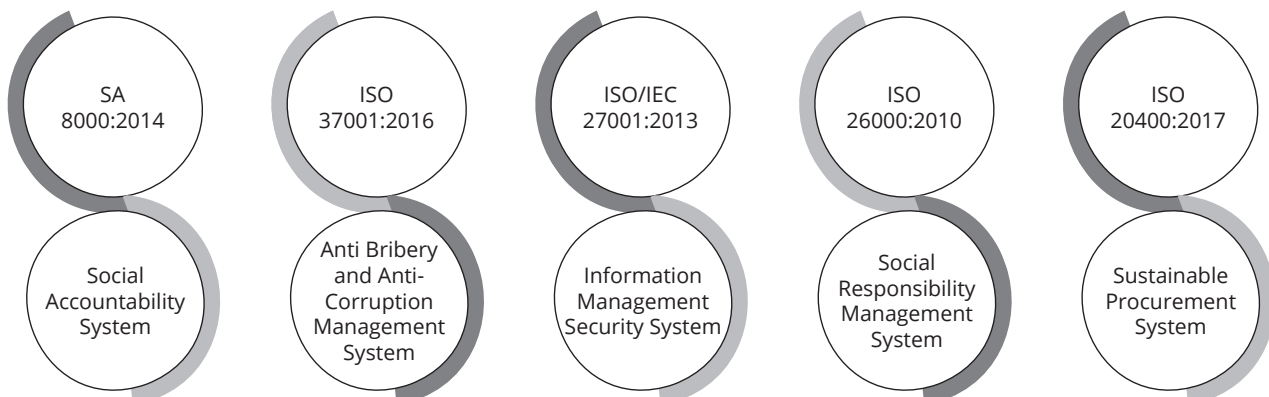
UL- Underwriter laboratory



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.





Headquarter

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