



HIGH-PERFORMANCE SEALS

INNOVATING TO MEET
NEW-WORLD CHALLENGES

ADVANCE with ISMAT



DESIGNERS & MANUFACTURERS OF HIGH PERFORMANCE SEALS IN INDIA

ISMAT, since its founding in 1981, has grown from an industrial spares manufacturer to one of India's premier manufacturers of high performance seals that are made using superior quality elastomers and engineering plastics. It is now a trusted partner for some of the world's biggest enterprises in the Oil & Gas, Automobile, Chemical and Earth Moving Industries.



Innovation
that creates intelligent solutions



Science
led product development and research



Materials
that meet exacting International standards



Agility
to deliver scale without compromising on timelines and quality



Technology
harnessed for the industries of the future

PRODUCTION WITH PRECISION

Our team of experts uses state-of-the-art machinery at our dedicated facility to create sealing solutions that can withstand the test of time.



40,000 SQ.FT.
FACTORY AREA



250+
EXPERT WORKFORCE



IN-HOUSE R&D
DESIGN & TOOLING

WHO WE ARE



40+ YEARS
of excellence in the field of high performance seals and engineering plastics



IN-HOUSE TOOLING
• Decrease lead time for prototyping
• Increase speed to market



PRODUCT RANGE
• PTFE: 5 mm to 1.4 mtr
• Rubber: 4 mm to 1.2 mtr



TEMPERATURE RANGE OF OUR MATERIALS
• Elastomers: -80°C to 320°C
• Engineering Plastics: -250°C to 315°C



COMPOUNDS DEVELOPED FOR
• Companies like CAT, ISRO and Harley Davidson
• AED / RGD
• Food equipment safety
• Sour fluid environment
• CO2 decompression environment
• Drinking water applications
• Nuclear gamma radiation resistance



DEDICATED FFKM PRODUCTION FACILITY



SAFETY STOCK
Standard size O-rings
• 5k+ moulds



SOLAR POWERED GREEN ENERGY

OUR CERTIFICATIONS



ISO 9001-2015
For the scope of Sales of Rubber Moulded Components and Engineering Plastics for Automotive and Industrial Applications



IATF 16949-2016
Quality Management Systems to Manufacture of Rubber Moulded Components



OUR FOOTPRINT

ISMAT GROUP OF COMPANIES CATER TO A GLOBAL MARKET AND HAVE STATE-OF-THE-ART FACILITIES IN BOTH INDIA AND THE UAE.

CHENNAI, INDIA
ISMAT
 High Performance Seals
 Engineering Plastic Components

UAE
ISMAT RUBBER PRODUCTS
 Rubber Components
 PU products
 Rubber Rollers

AL KHALEEJ POLYMERS
 Rubber & resilient flooring
 for gyms, schools, sports,
 home, animal, agriculture
 and industries

METAL FABRIK
 Sheet metal
 fabrications

AL ZERWA
 Hydraulic cylinders
 servicing components,
 power packs and all
 kinds of valves

ISMAT TECHNICAL TRADING LLC
 Trading division for industrial
 rubber products, engineering
 plastics & PU products.



MARKETS

MANUFACTURING UNITS

INDUSTRIES

ISMAT sealing solutions use a combination of proprietary technology and expert know-how to create trusted solutions for a wide range of industries. We use raw materials from the world's best suppliers to create specialized, high-performance seals that meet global standards and certifications.



OIL & GAS



CHEMICAL



AEROSPACE



ENERGY



MINING



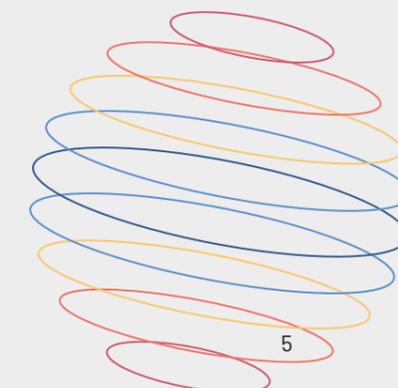
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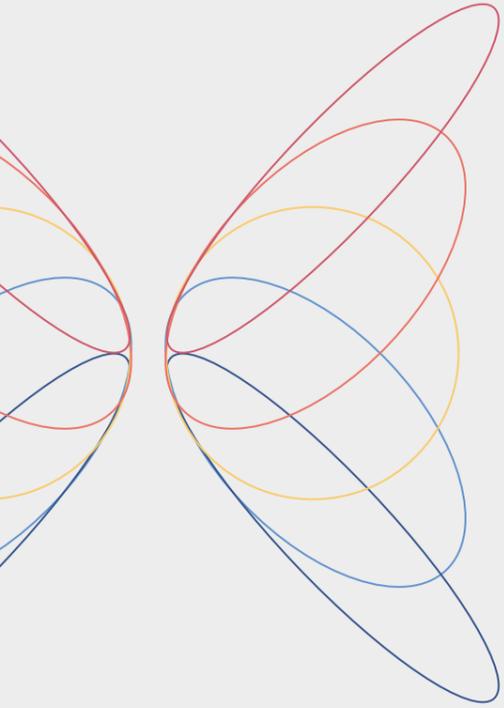
FOOD & BEVERAGE



AGRICULTURE



EXCELLENCE IN MANUFACTURING



HIGH-PERFORMANCE ELASTOMERS

- Automated Vacuum-Based Compression Moulding Line
- AI-Powered Injection Machines
- Advanced Auto-Calibrated Preformer For Blanking
- Leading-Edge Deflashing System (Cryogenic, Tumbling, CPM)
- CNC Oscillating Rubber Cutting Machines

ENGINEERING PLASTICS

- Controlled Production Environment
- PLC-Controlled Moulding Line
- Advanced Sintering Ovens
- High-precision CNC Machines
- Large, Automated NC Lathes

QUALITY CONTROL

- Well-equipped Quality System
- Advanced CMM Inspection System
- Video Measurement System
- Quick Vision Measuring System
- Non-contact Measuring Gauges

THE FINEST MATERIAL IN ITS FINEST FORM

FULLY EQUIPPED IN-HOUSE FFKM PRODUCT DEVELOPMENT FACILITY AT ISMAT ENSURES PURITY THROUGH EFFECTIVELY CONTROLLED MANUFACTURING.



CONTROLLED ENVIRONMENT FOR TRUSTED PERFORMANCE

With the dedicated FFKM facility at ISMAT, we ensure that our high-performance elastomers can deliver consistent performance even under the most strenuous of conditions.



ANY SIZE, ANY VOLUME
ANY WHERE

ADVANCE with ISMAT



VERTEX

Our Vertex series of high-performance elastomers (including fluoroelastomers, perfluoroelastomers and others) are designed to meet stringent industry needs across different sectors like Oil and Gas, Chemical, Energy, Aerospace and more. Some specially designed elastomers in this range have received industry-leading certifications like NORSOK M-710 Edition 3 for Rapid Gas Decompression (RGD), NACE TM0187-2011 for use in sour fluid environments, and others.



MATERIAL PROPERTIES

MATERIAL	POLYMER	KEY FEATURES	LIMITATIONS	INDUSTRIES
Vertex AC	ACM	<ul style="list-style-type: none"> • 60±5 Sh-A Durometer. • Temp. Range: -3°C to +230°C. • Resistant to Engine Oil & Auto Transmission Fluids. 	Not recommended for glycols, alcohols, alkalis, brake fluids and chlorinated or aromatic hydrocarbons.	Automotive, Industrial
Vertex A	AFLAS	<ul style="list-style-type: none"> • 70-90 Sh-A Durometer • Temp. Range: -3° C to +230°C • Amine, Base & Steam Resistant 	Not recommended for automotive fuels since it has a higher amount of volume swell than other FKMs.	Oil & Gas/ Chemical/ Automobile/ Aerospace/ Energy
Vertex FC	FKM	<ul style="list-style-type: none"> • 60-90 Sh-A Durometer • Temp. Range: -60° C to +230°C • Resistant to Hydrocarbons, Aromatic hydrocarbons • Special compounds are suitable for RGD applications • Special compounds are resistant to Gamma Radiation of 5Mrad 	Not recommended for ammonia gas, amines, alkalis, superheated steam, polar solvents such as acetones, MEK, ethyl acetate etc.	Oil & Gas/ Chemical/ Automobile/ Aerospace/ Energy
KIFK22BN	FKM Brown	<ul style="list-style-type: none"> • 70±5 Sh-A Durometer. Color: Brown. • Temp. Range: -20°C to +204°C. • FDA Compliant. Tested as per US FDA 21 CFR 177.2600. 	Not recommended for ammonia gas, amines, alkalis, superheated steam, glycol based brake fluids, polar solvents such as acetones, MEK, ethyl acetate, diethyl ether, di oxane).	Oil & Gas/ Chemical/ Automobile/ Food/Aerospace/ Energy
Vertex F	FFKM	<ul style="list-style-type: none"> • 75-90 Sh-A Durometer • Temp. Range: -40°C to +315°C • Excellent Resistance to aggressive media such as hot amines > +70°C. • Excellent Resistance to acids, sour gases, and hydrocarbons etc. • Special compounds are suitable for RGD applications 	Not recommended for chemical compounds containing fluorine such as Freon 11, 12, 13, 113, 114).	Oil & Gas/ Chemical/ Automobile/ Aerospace/ Energy
Vertex FS	FSL	<ul style="list-style-type: none"> • 70±5 Sh-A Durometer • Temp. Range: -70°C to +200°C • Excellent Low Temperature Properties and Good Chemical Resistance 	Not recommended for exposure to brake fluids, hydrazine, or ketones.	Automotive, Industrial
Vertex H	HNBR	<ul style="list-style-type: none"> • 70-90 Sh-A Durometer • Temp. Range: -52°C to +160°C • Good Resistance to Chemicals • Special compounds are suitable for RGD applications 	Not recommended for polar solvents such as acetic acid, acetone, ketone, ethylene ester, and strong acids etc.	Oil & Gas/ Chemical/ Automobile/ Aerospace/ Energy

CERTIFICATIONS

- Certified to NORSOK M-710 RGD, API 6A, NACE TM0187, NACE TM0192
- FDA Compliant. Tested as per US FDA 21 CFR 177.2600
- Certified to UL 778 (Safety for Motor Operated Water Pumps)



CERULEAN

Our Cerulean series of specially compounded elastomers are extremely versatile and have strong engineering properties. This range contains seals using resilient materials like EPDM, SBR, NBR and others which can be used in a variety of industries including food and beverage, pharma, automobile, and others.



MATERIAL PROPERTIES

MATERIAL	POLYMER	KEY FEATURES	LIMITATIONS	INDUSTRIES
CERULEAN S	Silicone	<ul style="list-style-type: none"> • 70±5 Sh-A Durometer. Color: Blue • Temp. Range: -80°C to +200°C • Excellent Low Temperature Resistance 	Not recommended for acids, alkalis, aromatic mineral oil, fuels, aromatic hydrocarbons, superheated steam above +120°C.	Industrial / Food / Pumps
KINB24	NBR	<ul style="list-style-type: none"> • 65±5 Sh-A Durometer. • Temp. Range: -40°C to +110°C. • FDA Compliant. 	Not recommended for mineral oils, grease, chlorinated hydrocarbons.	Industrial / Food / Pumps
CERULEAN N	NBR	<ul style="list-style-type: none"> • 40 - 90 Sh-A Durometer. • Temp. Range: -55°C to +135°C • Oil Resistant 	Not resistant to ozone, sunlight, weathering & steam.	Industrial / Automotive / Marine / Fuel Systems
CERULEAN EP	EPDM	<ul style="list-style-type: none"> • 40 - 90 Sh-A Durometer. • Temp. Range: -55°C to +150°C. • Ozone, Weathering resistant. 	Not recommended for hydrocarbon fluids.	Industrial / Automotive / Food / Pumps
CERULEAN C	CHOLOPRENE	<ul style="list-style-type: none"> • 40 - 90 Sh-A Durometer. • Temp. Range: -40°C to +100°C. • Low Gas Permeability, Resistance to High Aniline Point Oils 	Not recommended for strong oxidizing acids, esters, ketones and chlorinated hydrocarbons	Industrial / Automotive
CERULEAN NR	NATURAL RUBBER	<ul style="list-style-type: none"> • 40 - 90 Sh-A Durometer. • Temp. Range: -40°C to +70°C. • Good Anti Vibration Properties, High Tear Strength, Rubber to Metal Bonded Goods. 	<ul style="list-style-type: none"> • Poor Compression Set. • Not resistant to many fluids. 	Industrial / Automotive
CERULEAN SB	SBR	<ul style="list-style-type: none"> • 40 - 90 Sh-A Durometer. • Temp. Range: -40°C to +100°C. • Excellent Abrasion Resistance, Crack Endurance and Water Resistance. 	Not suitable for ozone, sunlight, oil and steam applications.	Industrial / Automotive

CERTIFICATIONS

- Certified to NSF51, UL157 & UL778.
- WRAS





NOVUM

Our Novum series of Engineering Plastics include PTFEs (Polytetrafluoroethylene), PEEKs (Polyether Ether Ketone) and other similar materials which have unique properties like nonreactivity, hydrophobicity, a low coefficient of friction, and good insulating properties. PTFE is among the most chemically inert, nontoxic, and nonflammable substances tested under normal usage conditions, and is not metabolized.



MATERIAL PROPERTIES

MATERIAL	POLYMER	KEY FEATURES	LIMITATIONS	INDUSTRIES
Novum P	Virgin PTFE	<ul style="list-style-type: none"> • 50 - 55 Sh-D Durometer • Virgin PTFE • Temp. Range: -250°C to +250°C • Excellent chemical resistance, Low coefficient of friction, Excellent insulation properties. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum CF	RPTFE - Carbon Filled	<ul style="list-style-type: none"> • 60-65 Sh-D Durometer • Temp. Range: -200°C to +250°C • Available in 10%, 25% and 35% Carbon Filled PTFE Grades. • Resistant to almost all chemicals, Improved creep and wear resistance than Virgin PTFE. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum GF	RPTFE - Glass Filled	<ul style="list-style-type: none"> • 60±5 Sh-D Durometer • Temp. Range: -150°C to +250°C • Available in 15% and 25% Glass Filled PTFE Grades • Colors: White & Black • Improved mechanical properties than Virgin PTFE, Chemically inert at higher temperatures, Low coefficient of friction, better resistance to wear, creep and deformation. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum M	Modified PTFE	<ul style="list-style-type: none"> • 55±5 Sh-D Durometer • Modified PTFE • Temp. Range: -150°C to +260°C • Highly insoluble in most chemicals and solvents, high electrical resistance, good insulating properties, higher dielectric strength than standard PTFE making it better for high-voltage insulation. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum GC	RPTFE	<ul style="list-style-type: none"> • 60±5 Sh-D Durometer • 10% Glass+15% Carbon Filled PTFE • Temp. Range: -200°C to +260°C • Resistant to almost all chemicals, Improved creep and wear resistance than Virgin PTFE. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum MS	RPTFE	<ul style="list-style-type: none"> • 60 to 65 Sh-D Durometer. • 15%GF+9.4%CF+0.6%GPH PTFE. • Temp. Range: -200°C to +260°C. • Resistant to almost all chemicals, Improved creep and wear resistance than Virgin PTFE. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy

MATERIAL	POLYMER	KEY FEATURES	LIMITATIONS	INDUSTRIES
Novum BF	RPTFE - Bronze Filled	<ul style="list-style-type: none"> • 60 to 65 Sh-D Durometer • 40% Bronze Filled PTFE • Temp. Range: -150°C to +250°C • Chemically inert to most industrial chemicals, excellent electrical conductivity, Good thermal conductivity, Higher load bearing capacity than Standard PTFE. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum CN	RPTFE - Copper Nickle	<ul style="list-style-type: none"> • 60 to 65 Sh-D Durometer • 10% CuNi PTFE • Temp. Range: -150°C to +250°C • Excellent chemical resistance, Low coefficient of friction, High wear resistance, Good thermal conductivity. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum MOF	RPTFE - Molybdenum Disulphide	<ul style="list-style-type: none"> • 60 to 65 Sh-D Durometer • 25% Glass Fiber + 5% MoS2 Filled PTFE • Temp. Range: -200°C to +260°C • Excellent chemical resistance, impact resistance, dielectric properties, electrical and thermal insulation. Low coefficient of friction and moisture absorption. 	Not recommended for fluorinated hydrocarbons, or molten alkali metals, halogens, elemental fluorine, chlorotrifluoride.	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum PK	Virgin PEEK	<ul style="list-style-type: none"> • 80 Sh-D Durometer • Virgin PEEK • Temp. Range: +250°C Continuous • Extreme resistance to harsh chemicals, steam, water, sea water, solvents. Resistant to radiation, wear and abrasion, Extremely high mechanical strength, High modulus of elasticity. Higher stiffness and toughness. 	<ul style="list-style-type: none"> • Attacked by some acids, halogens and sodium. • Not recommended for halogenides, elemental fluorine, CF3 and molten alkali metals. 	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum PKC	PEEK Composites	<ul style="list-style-type: none"> • 65-85 Sh-D Durometer • Available in the following grades: <ol style="list-style-type: none"> 1. PEEK + 20% PTFE 2. PEEK + 30% Carbon Fiber 3. PEEK + PTFE + Carbon + Graphite 4. PEEK + 30% Glass Fiber • Temp. Range: + 250°C Continuous • High mechanical strength and Good dimensional stability, Resistant to almost all chemicals, Low coefficient of friction than unfilled PEEK. Excellent sliding, abrasion and wear resistance. 	<ul style="list-style-type: none"> • Attacked by some acids, halogens and sodium. • Not recommended for halogenides, elemental fluorine, CF3 and molten alkali metals. 	Oil & Gas/ Chemical/ Aerospace/ Energy
Novum PCT	PCTFE	<ul style="list-style-type: none"> • 75 to 85 Sh-D Durometer. • Temp. Range: +250°C Continuous. • Resistant to strong chemicals, UV and Ozone. Non-flammable with high limiting oxygen index. High tensile strength, creep and abrasion resistance. Lowest coefficient of thermal expansion of any unfilled fluoropolymer that makes it dimensionally stable. 	Melting point is lower than PTFE. Eroded by many organic materials and has low thermal stability in the molten state.	Oil & Gas/ Chemical/ Aerospace/ Energy

CERTIFICATIONS

- API 6A Certified



DESIGNING TAILOR-MADE
SOLUTIONS FOR THE MOST
DEMANDING APPLICATIONS

ADVANCE with ISMAT

OUR PRODUCTS

VERTEX & CERULEAN



O RINGS

An O-ring is a mechanical seal with a round cross-section, designed to fit into grooves and be compressed during assembly between two or more parts, creating a secure seal.



WIPER SEALS

Wiper seals are also known as scraper seals, excluders and collars. Their primary role is to provide a physical barrier to limit the ingress of moisture, dirt and other contaminants from piston rods used in hydraulic systems into the primary sealing system. This prevents external contamination from damaging internal seals and other system components.

BACKUP RINGS

A Backup Ring is used along with an elastomeric seal in order to prevent extrusion of the primary seal under high pressure applications.



D RINGS

D-rings offer another alternative seal solution to O-rings for use in reciprocating dynamic or rotary applications. They offer the same sealing characteristics as an O-ring and can be used in both low and high pressure application across a broad range of temperatures.



U CUP SEALS

This is a unique sealing device with a U-shaped profile that's designed to create an airtight barrier and prevent fluids from leaking. It has an outside static sealing lip and an inside dynamic sealing lip.



PACKING ELEMENTS

The packing element is the elastomer sealing element that creates the seal between its exterior and the inner wall of the casing. Packing elements are sealing components used between sections of oil and gas production tubing to prevent fluids and pressure from leaking through the joints. This protects the casing, production tubing, liner and wellbore wall above and below the producing zone.



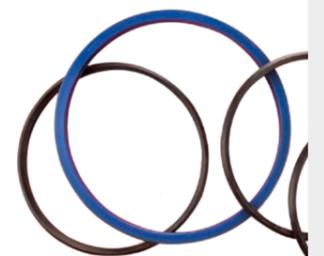
LIP SEALS

Also known as rotary seals, lip seals fit around a rotating shaft to prevent leakage of fluids and the inner "lip" creates a secure fit around the shaft that keeps contaminants out.



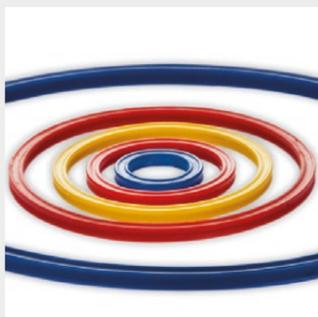
DELTA RINGS

The Delta Ring is a gasket used to replace the O-ring in valve seats with a soft seal on the ball. It ensures reliable tightness for ball and gate valves at high pressure.



X RINGS

An X-ring or Quad ring is a sealing ring that has an "X" cross-section. It has four sealing surfaces instead of two, which creates uniform contact pressure and prevents the seal from twisting and rolling, especially under dynamic applications.

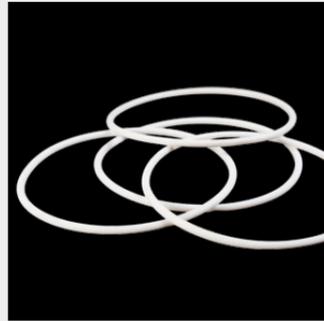


CUSTOM MOULDED COMPONENTS

Some moulded parts are customised or specialised for specific applications or materials. These components cater to unique moulding requirements, providing adaptability and versatility in manufacturing processes.



OUR PRODUCTS



PTFE O RINGS

PTFE O rings or Teflon O rings are highly resilient ring-shaped soft seals. They are resistant to high temperatures and aggressive chemicals. They also possess outstanding weather, ozone and electrical resistance.

GASKETS

A PTFE (Polytetrafluoroethylene) gasket is a type of sealing solution made from a highly durable, chemically resistant material. It is widely used in industries due to its exceptional resistance to extreme temperatures, chemicals, and corrosion, making it ideal for critical applications in chemical processing, pharmaceuticals, and food industries.



VALVE SEATS

A PTFE valve seat is a component in valves that provides a tight seal to control the flow of fluids. Made from PTFE, it is crucial in industries because of its outstanding chemical resistance, low friction, and ability to withstand extreme temperatures, ensuring reliable performance and longevity in demanding environments such as chemical processing, oil and gas, and pharmaceuticals.

PEEK PARTS

PEEK, or Polyetheretherketone, is a high-performance engineering thermoplastic known for its exceptional mechanical and chemical properties. It belongs to a group of polymers called high-performance plastics, which are designed to perform in demanding environments.



PCTFE PARTS

PCTFE, or Polychlorotrifluoroethylene, is a high-performance polymer known for its unique properties. It is a type of fluoropolymer, which means it contains fluorine atoms in its molecular structure, giving it distinct characteristics that make it suitable for demanding applications.

NOVUM



CHEVRON PACKINGS

Chevron packing, also known as V-ring packing, consists of a series of stacked, V-shaped rings that provide a dynamic seal in high-pressure applications. Its design allows it to flex and adjust to varying pressures, making it highly effective in preventing leaks in rotating and reciprocating equipment. Chevron packing is significant in industries like oil and gas, petrochemicals, and power generation, and is commonly used in valves, pumps, and hydraulic cylinders where reliable sealing under fluctuating pressures is essential.

GUIDE RINGS

A guide ring, also known as a wear ring, is a component used to guide the valve stem or piston, ensuring proper alignment and reducing wear by preventing metal-to-metal contact. It is significant in industries for extending the lifespan of valves and cylinders by maintaining precise movement and preventing leakage due to misalignment. Guide rings are commonly used in hydraulic and pneumatic valves, as well as in actuators and pumps, across industries like oil and gas, manufacturing, and aerospace.



SPRING ENERGISED SEALS

A spring-energised seal is a sealing solution that combines a polymer jacket, typically PTFE, with a metallic spring inside to maintain constant sealing pressure, even under varying temperatures and pressures. This design ensures a reliable, leak-free seal in demanding applications, making it crucial in industries like aerospace, oil and gas, and chemical processing. Spring-energised seals are often used in high-performance valves, such as cryogenic valves, rotary valves, and dynamic sealing applications, where consistent sealing under extreme conditions is required.

SEAT RINGS

A seat ring is a replaceable component in a valve that provides the sealing surface against which the valve closure element (such as a disc or ball) seats to stop the flow of fluid. Unlike a valve seat, which is typically an integral part of the valve body, a seat ring can be removed and replaced, allowing for easier maintenance and longer valve life. Seat rings are significant in industries where valves undergo frequent wear or require precise sealing, and they are commonly used in high-performance valves like ball, gate, and globe valves in sectors such as oil and gas, petrochemicals, and power generation.



CUSTOM MOULDED COMPONENTS

PTFE custom molded components are precision-engineered parts made from Polytetrafluoroethylene, offering exceptional chemical resistance, low friction, and high thermal stability. These components are tailored to specific application requirements, making them ideal for demanding environments in industries such as aerospace, chemical processing, and pharmaceuticals, where reliability and performance are critical.

MATERIAL SELECTION GUIDE: VERTEX

ISMAT Trade Name	Material	Physical Properties							Certifications
		Hardness (Shore-A)	Tensile Strength (Mpa)	Elongation (%)	100% Modulus (Mpa)	TR10 (°C)	Compression set @ 200°C (%) (70hrs)	Temperature Range	
VERTEX FC 01	FKM - A 75	75	13	268	5	-15	15	-18°C to +204°C	
VERTEX FC 02	FKM - A 80	80	13	268	5	-15	15	-18°C to +204°C	
VERTEX FC 03	FKM - A 70	70	10	201	6	-15	21	-18°C to +204°C	
VERTEX FC 04	FKM - A 90	90	14	153	10	-15	26	-18°C to +204°C	
VERTEX FC 07	FKM - B 75	75	12	233	6	-18	26	-18°C to +204°C	
VERTEX FC 09	FKM GLT 75	75	19	215	6	-30	20	-30°C to +204°C	
VERTEX FC 10	FKM GLT 90 AED -30°C	90	21	155	13	-30	11	-30°C to +204°C	NORSOK M-710 / ISO 23936-2, NACE TM0187, NACE TM0192, API 6A
VERTEX FC 11	FKM 90 AED	90	19	115	17	-18	21	-18°C to +204°C	NORSOK M-710 / ISO 23936-2, NACE TM0187, NACE TM0192, API 6A
VERTEX FC 13	VITON GF 90 AED	90	21	123	16	-3	22	-5°C to +204°C	
VERTEX FC 14	VITON GF 75	75	18	284	4	-3	13	-5°C to +204°C	
VERTEX FC 15	FKM GLT 90 AED -46°C	90	16	113	14	-42	16	-46°C to +204°C	NORSOK M-710 / ISO 23936-2, NACE TM0187, NACE TM0192, API 6A
VERTEX FC 16	FKM - A Gamma Radiation Resistant	75	14	198	7	-18	12	-18°C to +204°C	
VERTEX FC 18	FKM B 90 AED	90	14	180	8	-18	38	-18°C to +204°C	NORSOK M-710 / ISO 23936-2, NACE TM0187, NACE TM0192
VERTEX FC 19	FKM - A 70	70	15	215	6	-18	18	-18°C to +204°C	
VERTEX FC 22 BN	FKM - A BROWN 70 FDA	70	8	227	4	-18	17	-18°C to +204°C	NSF 51, UL 778, US FDA 21 CFR 177.2600
VERTEX FC 24 ULT	FKM 90 ULT -60°C	90	13	110	12	-45	17	-60°C to +204°C	
VERTEX FC 25 BN	FKM - A BROWN 90	90	16	135	13	-18	25	-18°C to +204°C	
VERTEX FC 28	FKM - A 95	95	14	108	13	-18	24	-18°C to +204°C	
VERTEX FC 33	VITON GFLT 90	90	18	116	16	-29	20	-30°C to +204°C	
VERTEX FC 35	FKM GLT 56	56	7	212	2	-42	16	-46°C to +204°C	

MATERIAL SELECTION GUIDE: VERTEX

ISMAT Trade Name	Material	Physical Properties							Certifications
		Hardness (Shore-A)	Tensile Strength (Mpa)	Elongation (%)	100% Modulus (Mpa)	TR10 (°C)	Comp. set @ 200°C (%) (70hrs)	Temperature Range	
VERTEX H 16	HNBR 75	75	27	272	9	-18	18	-20°C to +160°C	
VERTEX H 17	HNBR 90 LT AED -46°C	90	19	143	15	-35	12	-46°C to +160°C	NORSOK M-710 / ISO 23936-2, NACE TM0192
VERTEX H 18 LT	HNBR 85 LT -46°C	85	16	141	13	-35	29	-46°C to +160°C	
VERTEX H 19	HNBR 90	90	25	174	18	-18	13	-20°C to +160°C	

ISMAT Trade Name	Material	Physical Properties							Certifications
		Hardness (Shore-A)	Tensile Strength (Mpa)	Elongation (%)	100% Modulus (Mpa)	TR10 (°C)	Comp. set @ 200°C (%) (70hrs)	Temperature Range	
VERTEX A 01	AFLAS 90 AED	90	14	100	7		50	-3°C to +230°C	
VERTEX A 02	AFLAS 75	75	14	150	5		50	-3°C to +230°C	
VERTEX A 03	AFLAS 80	80	16	100	5		50	-3°C to +230°C	

ISMAT Trade Name	Material	Physical Properties							Certifications
		Hardness (Shore-A)	Tensile Strength (Mpa)	Elongation (%)	100% Modulus (Mpa)	TR10 (°C)	Comp. set @ 200°C (%) (70hrs)	Temperature Range	
VERTEX F 01 ED	FFKM 90 AED	90	16	80				-10°C to +230°C	
VERTEX F 02	FFKM 75	75	16	100				-10°C to +230°C	
VERTEX F 02 LT	FFKM 75 LT -40°C	75	13	224	5	-30	20	-40°C to +230°C	
VERTEX F 03 HT	FFKM 75 HT +315°C	75	17	109	16			-10°C to +315°C	
VERTEX F 04 HT	FFKM 90 HT +315°C	90	14	70				-10°C to +315°C	
VERTEX F 06 HT	FFKM 80 HT +315°C	80	17	97			9	-10°C to +315°C	
VERTEX F 07 LT	FFKM 90 LT AED -40°C	90	10	205	6	-30	35	-40°C to +230°C	
VERTEX F 09 M	FFKM 75	75	18	154	9		15	-10°C to +250°C	
VERTEX F 10 M	FFKM 90	90	16	80				-10°C to +250°C	

MATERIAL SELECTION GUIDE: **NOVUM**

ISMAT Trade Name	Material	Physical Properties Typical values						
		Hardness (Shore-D)	Tensile Strength (Mpa)	Elongation (%)	Density (g/cc)	Colour	Temperature Range	Certifications
NOVUM 01	VIRGIN PTFE	55	33	390	2.163	White	-250°C to +250°C	API 6A
NOVUM 02	VIRGIN PTFE	55	28	270	2.142	White	-250°C to +250°C	
NOVUM M 03	MODIFIED PTFE	54.6	29	424	2.15	White	-150°C to +260°C	API 6A
NOVUM CF 02	25% CARBON FILLED PTFE	68	23	122	2.1	Black	-200°C to +250°C	API 6A
NOVUM CF 04	35% CARBON FILLED PTFE	68	13	59	2.05	Black	-150°C to +250°C	
NOVUM CF 05	10% CARBON FILLED PTFE	64	22	237	2.14	Black	-200°C to +260°C	
NOVUM GF 01	15% GLASS FILLED PTFE	57	25	339	2.193	White	-200°C to +260°C	API 6A
NOVUM GF 02	25% GLASS FILLED PTFE	60	15	267	2.232	Black	-200°C to +260°C	
NOVUM GF 03	25% GLASS FILLED PTFE	60	19	257	2.231	White	-200°C to +260°C	
NOVUM GR 01	25% GRAPHITE FILLED PTFE	63	11	93	2.168	Black	-200°C to +250°C	
NOVUM MS 01	15% GLASS, 9.4 CARBON, 0.6% GRAPHITE FILLED PTFE	64	14	153	2.192	Black	-200°C to +260°C	
NOVUM GC 01	10% GLASS, 15% CARBON FILLED PTFE	62	18	196	2.152	Black	-200°C to +260°C	
NOVUM CN 05	10% COPPER NICKEL FILLED PTFE	60	29	271	2.324	Grey	-150°C to +250°C	
NOVUM BF 01	40% BRONZE FILLED PTFE	64	18	232	3.076	Brown	-150°C to +250°C	
NOVUM PK 01	VIRGIN PEEK	92	107	27	1.3	Natural	-150°C to +250°C	
NOVUM PK 02	20% PTFE FILLED PEEK	75	53	40	1.45	Natural	-150°C to +210°C	
NOVUM PK 03	30% CARBON FILLED PEEK	85	125	3	1.4	Black	-150°C to +260°C	
NOVUM PK 04	10% PTFE, 10% CARBON, 10% GRAPHITE FILLED PEEK	85	70	3	1.44	Black	-150°C to +250°C	
NOVUM PK 05	30% GLASS FILLED PEEK	85	110	4	1.3	Natural	-150°C to +260°C	
NOVUM PK 06	30% PTFE FILLED PEEK	75	45	35	1.45	Natural	-150°C to +210°C	
NOVUM PCT 01	PCTFE	78	33	115	2.14	Natural	-200°C to +150°C	



HIGH-PERFORMANCE SEALS

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