united®

an impeccable sealing solution

Specalists in Silicon Carbide & Tungsten Carbide Solutions

We deal with industries like Aerospace, Pumps, Mechanical Seals, Semiconductors, Industrial Turbines, Mining, Oil & Gas, Pharmaceuticals, Medical etc.

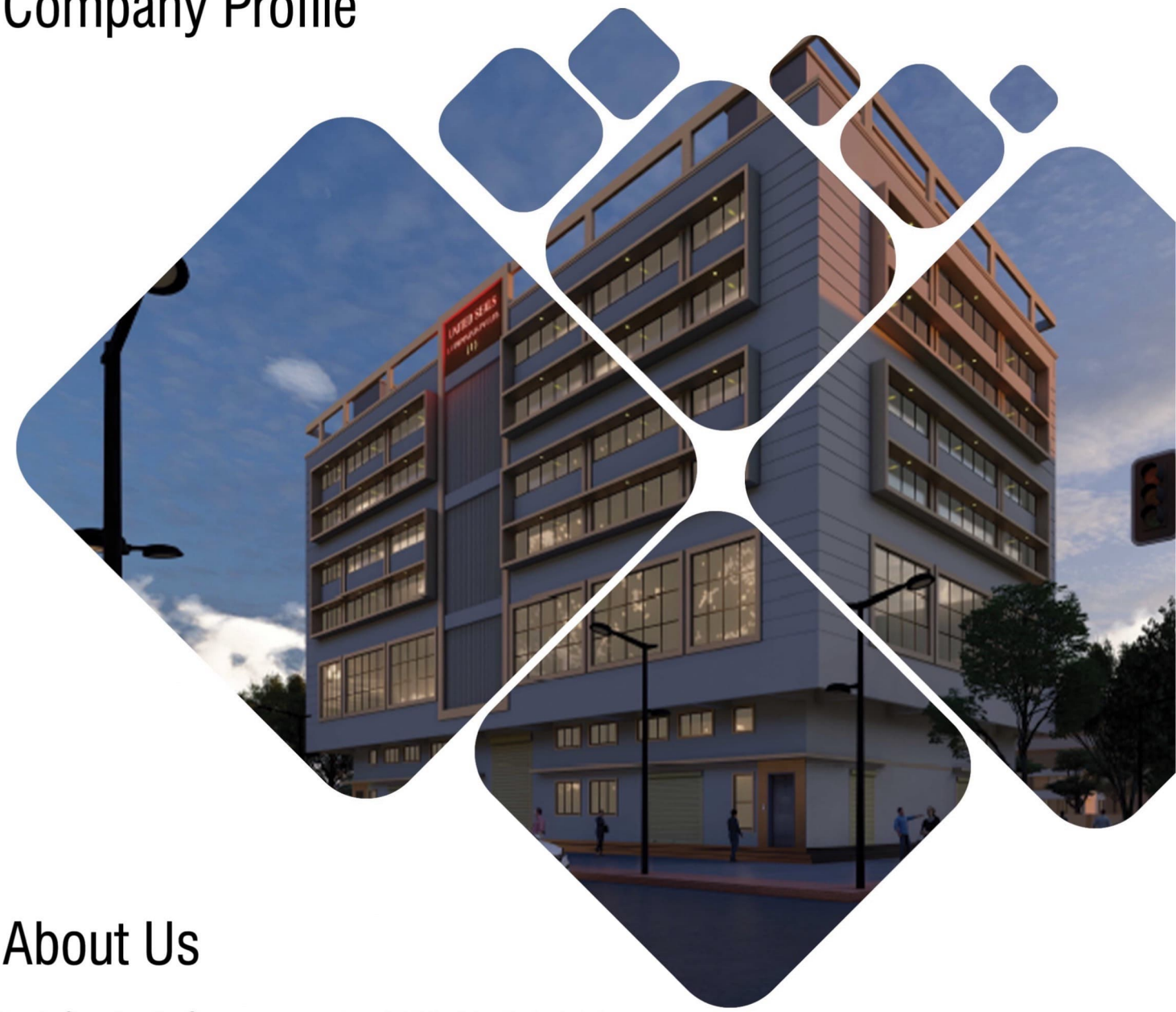
It took 16 years from "Starting Business" to "Setting Industry Standards"

16 YEARS

United Seals and Components (India) Pvt. Ltd.

2008	United Seals & Components (India) Pvt. Ltd. Was founded By Dayla Brothers
2008	Founded United Sealing Devices that Deals In Mechanical Seal Faces
2009	Started Import & Export In Silicon Carbide Mechanical Seal Faces, Started Dealing In Carbon Graphite For Blanks, Seal ring & Bearing Bushes
2010	Started Dealing in Tungsten Carbide for Blanks, Seal rings, Bearing Bushes
2011	Started dealing In Carbon Graphite for Blanks, Seal ring & Bearing Bushes (Schunk Germany)
2012	Started taking custom jobs, i.e.: jobs based on customer provided
2013	Name Changed From United Sealing Devices To United Seals & Components (India) Pvt. Ltd.
2014	Formed Manufacturing Unit For Making Customized Job
2015	Co. Expand With 2 More Galas Unit, Start To Deals In SGL Carbon (Germany) For Keep Stock Of Blanks
2016	Achieved ISO 9001 Company Certification
2017	Introduce Wave Spring Standard And Customized
2018	Started To Keep Standard Stationeries With Complete Range & Bulk Stock
2019	Co. Expand With 1 More Galas Unit
2021	Shifted Operations and Manufacturing Setup With Advanced Facility
2023	We Bought and Setup One More Grinding & Finishing Unit at Gujarat Siddhpur GIDC
2024	we have proudly established a state-of-the-art Silicon Carbide manufacturing unit at Apple Industrial Hub (Vasai)

Company Profile



About Us

United Seals & Components (INDIA) Pvt. Ltd. was founded in 2005 by Dayla brothers to provide engineered solutions to various engineering industries for their demanding applications, arrange raw materials and finished products to their requirements.

We deal with industries like Aerospace, Pumps, Mechanical Seals, Semiconductors, Industrial Turbines, Mining, Oil & Gas, Pharmaceuticals, Medical etc..

Visit Us
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▶ Carbon Graphite

Resin Impregnated Carbon

Resin-Impregnated Carbon is impregnated in the pores in carbon to improve strength, impermeability and slide properties. This material is recommended for machine parts that must run submerged in water, water-based chemicals, or organic chemicals with low friction and long wear life.

When the powders and the binders are mixed, they will then be moved into the next phase of carbon graphite production which is pressing. When successful molding has taken place, the carbon graphite parts will then be baked. Baking is a vital part of the process because up until this point, the binder is simply holding the powders together, but not providing the strength carbon graphite parts are known for. After the kilning process, carbon graphite materials become porous. To close the porosity is important to let the material harden, to improve wear resistance, to have better heat and chemical resistance and to make the material water proof.

Given the specialized nature of these materials, they are generally used for low temperature applications, they provide for good sliding properties. These characteristics makes them ideal for seals, bearing and rotor vanes, and they can be used in both wet and dry running applications.

BASIC COMPOSITION (CONTENTS)			RESIN IMPREGNATED CARBON
DENSITY	(g/cm3)		1.85
HARDNESS	SHORE		≥ 90
YOUNG'S MODULUS	Gpa		22.0
FLEXURAL STRENGTH	MPa		60.0
COMPRESSIVE STRENGTH	MPa		160.0
FLEXURAL STRENGTH	MPa		260.0
THERMAL CONDUCTIVITY	(W/m.°K)		13.0-14.0
CO-EFFICIENT OF HEAT EXPANSION α 20-200°C (α 70-390°F)	(10-6/°C)		6.5
POROSITY (Open)	VOL. (%)		2.5
CLOSED POROSITY	VOL. (%)		2.5
MAXIMUM USE TEMPERATURE	°C		≤ 200
FORMING METHOD			DIE MOLDING

▶ Carbon Graphite

Metal Impregnated Carbon

Carbon-graphite and graphite materials are inherently porous after their initial processing. To enhance their properties and make them suitable for a wider range of applications, it is common to impregnate these materials with resins or metals. Resin impregnation typically fills the pores, providing increased strength, improved surface finish, reduced porosity, and enhanced resistance to chemical and environmental degradation. On the other hand, metal impregnation involves introducing metals like antimony, copper, or silver into the material, which significantly increases its thermal conductivity, reduces electrical resistivity, and improves mechanical properties under demanding conditions.

For instance, antimony impregnation is specifically used to enhancethe friction and wear resistance, making the material suitable for high-performance applications. A key dist-inction between resin and metal impregnation is their performance under extreme conditions. Metal-impregnated materials are capable of withstanding much higher temperatures and pressures compared to their resin-impregnated counterparts, making them ideal for critical applications such as mechanical seals, bearings, and heat exchangers in industrial settings.

BULK DENSITY	(g/cm3)		2.3
POROSITY	(%)		< 1.5
FLEXURAL STRENGTH	MPa		80
COMPRESSIVE STRENGTH	MPa		250
YOUNG'S MODULUS (dyn.)	GPa		24
HARDNESS BRINELL HB5/62,5			115
CO-EFFICIENT OF HEAT EXPANSION α 20-200°C (α 70-390°F)	(10-6/K)		4.2
THERMAL CONDUCTIVITY	(W/mK)		13
TEMPRETURE LIMIT OXIDIZING ATMOSPHERE INERT ATMOSPHERE	(°C / °F)		 350°C / 660°F 600°C / 1110°F

▶ Silicone Carbide

Reaction Bonded Silicon Carbide (RBSiC)

Reaction bonded silicon carbide (RBSiC), also known as siliconized silicon carbide or SiSiC as well as Reaction Sintering, is a type of silicon carbide that is manufactured by a chemical reaction between porous carbon or graphite with molten silicon. Due to the left-over traces of silicon, reaction bonded silicon carbide is often referred to as siliconized silicon carbide, or its abbreviation SiSiC.

The reaction bonded silicon carbide ceramic (RBSIC) has various excellent characteristics such as high hardness, high decomposition temperature, high thermal conductivity, low expansion, corrosion resistance etc., and has been widely used in the fields of machinery, petroleum, automobile industry and so on.

Key Characteristics of Reaction Bonded Silicon Carbide :

1.High Hardness: RBSiC exhibits exceptional hardness, making it ideal for applications requiring wear resistance and durability.
2.High Decomposition Temperature: Its thermal stability allows it to maintain performance even under extreme temperatures.
3.High Thermal Conductivity: Effective heat transfer capabilities make it suitable for high-temperature and thermal management applications.
4.Low Thermal Expansion: The material's minimal thermal expansion ensures dimensional stability in varying temperature conditions.
5.Corrosion Resistance: Its chemical inertness allows it to resist corrosion from acids, alkalis, and oxidizing agents, even in harsh environments.

Application of Reaction bonded silicon carbide :

1.Mechanical Seals and Vanes: Essential for pumps and compressors, ensuring leak-proof and durable operation.
2.Wear Parts and Thrust Bearings: Used in environments with high friction and wear, such as machinery and automotive components.
3.Kiln Furniture and Support Components: Provides strength and stability in high-temperature ceramic and glass production processes.
4.Precision Components: Utilized in aerospace, electronics, and automotive industries for their reliability and precision.
5.Chemical Industry Equipment: Ideal for constructing parts exposed to corrosive chemicals, such as heat exchangers and reactor linings.

PROPERTIES	UNITS	TEST	RESULT
PURITY (SILICON)	(%)	-	≥ 90.0
FREE SILICON CONTENT	(%)	GB/T 3045	< 10
DENSITY	(g/cm3)	GB/T 25995	3.02~3.05
VICKERS HARDNESS	HV0.5	GB/T 16534	≥ 2000
ROCKWELL HARDNESS	HRA	GB/T 230.1	≥ 90
COMPRESSIVE STRENGTH	MPa	GB/T 8489	≥ 2000
FLEXURAL STRENGTH	MPa	GB/T 6569	≥ 350
ELASTIC MODULUS	GPa	GB/T 10700	≥ 350
THERMAL CONDUCTIVITY	(W/m.°K)	GB/T 22588	50-100
CO-EFFICIENT OF THERMAL EXPANSION	(10-6/°C-1)	GB/T 16535	≥ 4.0
MAXIMUM SERVICE TEMPRATURE - AIR	°C	-	1000
PORE SIZE ON SURFACE	mm	JB/T 6374	< 0.1

▶ Silicone Carbide

Sintered Silicon Carbide (SSiC)

Sintered Silicon Carbide (SSiC) is a high-performance ceramic material produced by sintering ultra-fine, high-purity silicon carbide powder (sub-micron size) in a vacuum furnace at temperatures ranging from 2100°C to 2200°C. This advanced sintering process densifies the green body without requiring any additional pressure, resulting in a material with exceptional properties. Unlike Reaction Bonded Silicon Carbide (RBSC), SSiC is free of residual silicon, offering superior thermal, mechanical, and chemical resistance, making it an ideal choice for demanding applications.

Manufacturing Process:
Direct Sintering: The powder compact is densified through pressureless sintering at high temperatures. This eliminates density variations that are common in traditional hot-pressing methods, ensuring consistent quality and structural integrity.

Key Advantages: Direct Sintered SiC exhibits higher density, better hardness, and improved thermal stability than Reaction Bonded SiC. It is widely recognized for its exceptional wear resistance and strength, even at elevated temperatures.

Properties:
1.High Hardness: Excellent wear resistance, outperforming many other materials in abrasive environments.
2.Thermal Stability: Retains strength and structural integrity at temperatures up to 1650°C.
3.Chemical Resistance: Inert to a wide range of chemicals, making it ideal for corrosive environments.
4.Lightweight and Durable: Combines low density with high mechanical strength.
5.High Thermal Conductivity: Effective in applications requiring rapid heat dissipation.

Applications of SSiC:
1.Automotive Components & Seal Faces: Provides durability and performance in high-friction, high-temperature environments.
2.Mechanical Seals: Resists wear and corrosion, ensuring long-lasting performance in harsh operating conditions.
3.Bearings: Used in high-load and high-speed applications due to low friction and excellent wear resistance.
4.Heat Exchanger Tubes: Delivers superior thermal conductivity and chemical resistance for heat transfer systems.

PROPERTIES	UNITS	TEST	RESULT
PURITY (SILICON)	(%)	-	≥ 90.0
DENSITY	(g/cm3)	GB/T 25995	3.07~3.15
VICKERS HARDNESS	HV0.5	GB/T 16534	≥ 2200
ROCKWELL HARDNESS	HRA	GB/T 230.1	≥ 93
COMPRESSIVE STRENGTH	MPa	GB/T 8489	> 2150
FLEXURAL STRENGTH	MPa	GB/T 6569	≥ 449
ELASTIC MODULUS	GPa	GB/T 10700	≥ 410
THERMAL CONDUCTIVITY	(W/m.°K)	GB/T 22588	< 146
CO-EFFICIENT OF THERMAL EXPANSION	(10-6/°C-1)	GB/T 16535	≤ 4.0
MAXIMUM USE TEMPRATURE	°C	-	1600
GRAIN SIZE (Average)	um	-	≤ 10.0
PORE SIZE ON SURFACE	mm	JB/T 6374	< 0.1

Tungsten Carbide (Nickel Bonded)

Tungsten carbide nickel bonded seal faces are commonly used in various industrial applications to prevent leakage between two mating surfaces. They are designed to provide exceptional wear resistance, durability, and reliability under high-pressure and high-temperature conditions.

Nickel Bonding: Nickel is commonly chosen as the bonding material due to its ability to form strong metallurgical bonds with both tungsten carbide and the metal substrate. The bonding process involves heating the components to high temperatures, causing the nickel alloy to melt and fuse the seal face to the metal surface.

The specific properties and characteristics of a nickel bonded tungsten carbide material can vary depending on the composition and manufacturing process. Typically, the tungsten carbide content can range from 70% to 94%, while the nickel content is around 6% to 30%. The balance of nickel and tungsten carbide determines the material's hardness, wear resistance, and other mechanical properties.

The combination of tungsten carbide and nickel bonding offers several advantages for seal faces:

1.Wear Resistance
2.Chemical Compatibility
3.High-Temperature Capability

NICKEL (Ni) (BASIC CONTENT)	(%)	6
TUNGSTEN CARBIDE (WC)(BASIC CONTENT	(%)	94
DENSITY	(g/cm3)	14.0~14.9
HARDNESS	HRA	≥ 88.5
COMPRESSIVE STRENGTH	N/mm2	5600
TRANSVERSE RUPTURE STRENGTH	N/mm2	2600
THERMAL CONDUCTIVITY	W/m.°K	110
CO-EFFICIENT OF THERMAL EXPANSION	(10-6/°K)	6
MAX. USE TEMPERATURE	°C	1500

Tungsten Carbide (Cobalt Bonded)

Tungsten carbide cobalt (WC-Co) bonded seal faces are a type of mechanical seal commonly used in various industrial applications, particularly in pumps and rotating equipment. These seal faces are designed to provide excellent wear resistance and sealing performance in challenging operating conditions.

The cobalt binder, often referred to as the “binder phase,” acts as a tough and ductile matrix that holds the tungsten carbide particles together. By adding cobalt, the overall strength, toughness, and impact resistance of the material are improved, making it more suitable for demanding applications. The cobalt binder also provides some resistance to corrosion and oxidation.

In the case of bonded seal faces, WC-Co is used as the sealing material due to its exceptional hardness and wear resistance. The seal faces are typically composed of two identical rings, each featuring a flat or lapped surface made of the WC -Co composite. These rings are installed within a mechanical seal assembly, forming a dynamic interface where the rotating and stationary parts of the equipment meet.

Applications:

Due to hardness property, tools for turning, milling, drilling or drawing, rolling, spinning as well as for cutting application. Surgery equipment is produced from tungsten carbide-cobalt.

COBALT (Co) (BASIC CONTENT)	(%)	6
TUNGSTEN CARBIDE (WC) (BASIC CONTENT	(%)	94
COERCIVE FORCE	Oe	182 - 182
DENSITY	(g/cm3)	14.6~15.0
HARDNESS	HRA	89.5
COMPRESSIVE STRENGTH	N/mm2	5400
TRANSVERSE RUPTURE STRENGTH	N/mm2	2000
THERMAL CONDUCTIVITY	W/m.°K	80
CO-EFFICIENT OF THERMAL EXPANSION	(10-6/°K)	5.5
MAX. USE TEMPERATURE	°C	1600

▶ Hydraulic Seals (FEP O-Rings)

FEP-encapsulated O-rings have a core of elastomer that is completely covered with a seamless sheath of FEP fluoropolymer. The elastomeric core is normally either fluorocarbon (FKM) or silicone (VMQ).

FEP (Fluorinated Ethylene Propylene) O-rings are a type of elastomeric sealing component made from FEP material, which is a fluoropolymer. FEP O-rings are known for their excellent chemical resistance, wide temperature range, and low friction properties. They are commonly used in applications where resistance to aggressive chemicals and high temperatures is requi- red. While FEP O-rings generally refer to O-rings made from FEP material, it's worth noting that there are variations based on different design aspects.

Here are a few types of FEP O-rings based on their characteristics:

FEP-encapsulated Silicone O-rings: These O-rings have a silicone core material that is fully en -capsulated with a layer of FEP material. This design offers the chemical resistance of FEP with the elasticity and low compression set characteristics of silicone. FEP-encapsulated silicone O-rings are suitable for applications where excellent chemical resistance and high temperature capabilities are needed.

FEP-encapsulated Viton® O-rings: Similar to FEP-encapsulated silicone O-rings, these O-rings have a Viton® core material that is fully encapsulated with FEP material. The combination of FEP and Viton® provides enhanced chemical resistance and high-temperature capabilities. These O -rings are commonly used in applications where resistance to aggressive chemicals and high temperatures is critical.

Advantages:

1.Outstanding chemical and corrosion resistance.
2.Reliable, cost-effective and high-performance sealing for many critical applications.
3.Broad temperature ranges from -60°C (-76°F) to 205°C (401°F), depending on core material choicePerfect suited for use in the food, chemic- al and pharmaceutical industries Physiologically safe.
4.Low permeation rate.
5.Low friction coefficient prevents adhesion or stick -slip effects.
6.Excellent for high purity processes due to low leach-out.

MECHANICAL PROPERTIES		
SPECIFIC GRAVITY	D792	2.15
ELONGATION %	D638	250～330
TENSILE STRENGTH (PSI)	D638	2,800～5,000
FLEXURAL STRENGTH (PSI)	D790	NO BREAK
COMPRESSIVE STRENGTH	D695	2,200
TENSILE ELASTIC MODULUS (YOUNG'S MODULUS) (PSI)	D638	50,000
(PSI) FLEXURAL MODULUS	D790	78,000～ 92,000
103MPA (103KGF/CM2)	D790	0.5-0.6 (5.5-6.5)
FLEX LIFE (MIT CYCLES)	D2176	5,000～80,000
HARDNESS DUROMETER SHORE D	D636	D55
COEFFICIENT OF FRICTION	ON STEEL	0.05
ABRASION RESISTANCE 1000 REVS.	TABER	14～20
IMPACT STRENGTH IZOD 73°F/23°C, NOTCHED FT/LBS/IN	D256	NO BREAK
THERMAL PROPERTIES		
MELTING POINT	°C / °F	260 / 500
UPPER SERVICE	°C	200
TEMPERATURE(20,000H)	(°F)	-392
FLAME RATING**	UL 94	V-0
THERMAL CONDUCTIVITY	BTU/HR/FT2/DEG F IN CAL/SEC/CM2,°C/CM	1.4 6 X 10-4
LINEAR COEFFICIENT OF THERMAL EXPANSION 10-5 °C	D696	8.3～10.5
HEAT OF FUSION	BTU/LB	11
HEAT OF COMBUSTION	BTU/LB	2200
LOW TEMPERATURE EMBRITTLEMENT	°C / °F	-268 / (-450)
ELECTRICAL PROPERTIES		
DIELECTRIC CONSTANT	D150/103HZ D150/106HZ	2.1 2.1
DIELECTRIC STRENGTH 10 MIL FILM	D149	>2000
VOLUME RESISTIVITY OHM-CM	D257	>1018
SURFACE RESISTIVITY OHM/SQ.	D257	>1017
GENERAL PROPERTIES		
CHEMICAL/SOLVENT RESISTANCE	D543	EXCELLENT
WATER ABSORPTION, 24H	%	<0.01
DEFORMATION UNDER LOAD	*D621/100°C *D621/25°C	5 3
REFRACTIVE INDEX		1.338
LIMITING OXYGEN INDEX	>95	>95
PROPERTIES	ASTM OR UNIT	FEP

▶ Ceramics

A ceramic is an inorganic non-metallic solid made up of either metal or nonmetal compounds that have been shaped and then hardened by heating to high temperatures. In general, they are hard, corrosion-resistant and brittle.

Traditional ceramics are clay–based. Most likely earthenware, stoneware and porcelain. The composition of the clays used, type of additives and firing temperatures determine the nature of the end product.

Typical oxides used are alumina (Al2O3).
Non-oxides are often carbides, borides, nitrides and silicide, for example, boron carbide (B4C), silicon carbide (SiC) and molybdenum disilicate (MoSi2).

Production processes firstly involve thoroughly blending the very fine constituent material powders. After shaping them into a green body, this is high-temperature fired (1,600–1,800°C). This step is often carried out in an oxygen-free atmosphere.

The high temperature allows the tiny grains of the individual ceramic components to fuse together, forming a hard, tough, durable and corrosion-resistant product. This process is called sintering.

The common ceramic we find in the sealing industry includes:
95: meaning 95% aluminum oxide with the balance mainly silica.
5: meaning 99.5% aluminum oxide with no silica. A small amount of caesium is added to control the grain size and improve the firing characteristics.

Ceramic is a versatile seal face material that is generally inexpensive. It is a hard material & light to touch, with a white color. Ceramic offers excellent wear characteristics & chemical compatibility. Unlike other mechanical seal face materials though, it cannot handle thermal shocks. Ceramics retain heat when equipment is not operating, and general start-up procedures can easily crack this seal face material. Ceramic, like silicon carbide, will shatter/crack if contacted with force or dropped.

Classification of Ceramics are based on their:

Oxides, Carbides, Nitrides, Sulfides, Fluorides.

TECHNICAL PROPERTIES OF CERAMIC IN 99.5% AL2O3 (HIGH ALUMINA)

ATTRIBUTE	UNIT	SPECIFICATION	ACTUAL (OBTAIN)
ALUMINA CONTENT	%	99.5 MIN	99.61
DENSITY	(gm/cc)	3.8 MIN	3.85-3.88
POROSITY	%	0.00	0.00
HARDNESS	R45N	80 MIN	80-82
MECHANICAL PROPERTIES COLOUR		IVORY WHITE / WHITE	
WATER ABSORPTION	%	5	
GAS PERMEABILITY		-	
FLEXURAL STRENGTH 20°C	MPA	382	
ELASTIC MODULES 20°C	GPA	393	
STIFFNESS/WEIGHT 20°C	PER SEC	92.1	
COMPRESSIVE STRENGTH 20°C	GPA	2.945	
TENSILE STRENGTH 25°C	GPA	0.2552 TO 0.2667	
FRACTURE TOUGHNESS K 10	MPA M½	3.5 ± 0.05	
WEAR CHEM. PROP. CORROSION		HIGH	
MAX. USE TEMPERATURE	°C	1600	

Grinding Wheels

Different Types of Abrasives used in Grinding Wheels

Natural Abrasive
Artificial Abrasive
The natural abrasives are emery and corundum, these are impure forms of aluminum oxide.

Artificial abrasives are silicon carbide and aluminum oxide.

The abrasives are selected depending upon the material being ground. 'Brown' aluminum oxide is used for general purpose grinding of tough materials. 'White aluminum oxide is used for grinding ferrous and ferrous alloys. 'Green' silicon carbide is used for very hard materials with low tensile strength such as cemented carbides.

Grain Size or Grit Size of Grinding Wheel

The number indicating the size of the grit represents the number of openings in the sieve used to size the grain. The larger the grit size number, the finer the grit.

Grade of Grinding Wheel

Grade indicates the strength of the bond and, therefore, the 'hardness' of the wheel. In a hard wheel the bond is strong, and securely anchors the grit in place and, therefore, reduces the rate of wear. In a soft wheel, the bond is weak and the grit is easily detached resulting in a high rate of wear.

Bond of Grinding Wheel

The bond is the substance which, when mixed with abrasive grains, hold them together, enabling the mixture to be shaped to the form of the wheel, and after suitable treatment to take on the necessary mechanical strength for its work. The degree of hardness possessed by the bond is called the 'grade' of the wheel, and indicates the ability of the bond to hold the abrasive grains in the wheel. There are several types of bonding materials used for making wheels.

Types of Bonds in Grinding Wheel:

Vitrified bond, Silicate bond, Shellac bond, Rubber bond, Resinoid bond.

▶ Wave Springs

Wave spring are flat-wire compression springs engineered to optimize space in an assembly. The wave springs innovative 'multiple waves per turn' design can offer the same spring force as a traditional round wire coil spring, but at 50% of its operating height.

The wave spring's unique advantage offers engineers the space-saving spring solution they need to meet the demand of designing modern-day, compact technology.

Reduced spring height by up to 50% when used to replace ordinary coil spring Compact design fits tight radial & axial spaces, reduced spring cavity size. Light-weight assembly, save production time and material cost. Accurate & predictable load(s) toleranced at specific working height(s)

Wave spring applies pressure to precisely load the seal face against a mating ring surface, properly sealing fluids. The wave spring operates over a fixed working range and provides an exact force. The wave spring replaces a stamped wavey washer that was unable maintain the necessary spring rate. The exact pressure of the seal face against the sealing surface provided by the wave spring is essential to avoid excessive wear, yet maintain a proper seal.

Functional requirements are necessary for both dynamic and static spring application.

Special performance characteristics are individually built into each spring to satisfy a variety of precise operating conditions.

Typically, a wave spring will occupy an extremely small area for the amount of work it performs. The use of this product is demanded, but not limited to tight axial and radial space constraints.

▶ Screws & Pins

Grub screws, also known as set screws, are a type of fixing screw that's most often used to join one component or part securely to another.

The design of grub screws means they're intended to offer this secure gripping or joining facility without the use of a nut, as opposed to the typical arrangement found with most bolts. Despite this key difference, grub screws effectively function much the same as a bolt in practice. Because they're fully threaded and designed to be driven into an existing tapped hole or socket – rather than driven into the surface, creating a new hole – they're commonly considered a type of bolt, albeit with a few key differences.

The most obvious point of distinction between grub screws and other types of standard screws and bolts is that true grub screws tend not to feature a protruding head. Instead, they're usually threaded right to the top, and are the same diameter all the way along their length, meaning that the grub screw can be fully driven into its hole to sit flush with (or even countersunk into, depending on the application) the workpiece.

Types of Grub screws:

1.**Flat-end grub screws:** Which the end opposite the head makes a simple flush contact between the parts being joined.

2.**Domed point end grub screws:** Which offer a slightly pointed or tapered tip that provides more pressure at the point of contact.

3.**Cone point tip grub screws:** Which are ideal for exerting additional force when joining items made from softer materials, or to fit into an existing depression in the piece being mated to.

4.**Cup point grub screws:** Which offer much the same function as cone point varieties but can be driven still further to provide even more torque and gripping force.

5.**Knurled point grub screws:** Which do much the same as cup point versions but also feature a serrated end for additional friction/grip.

Our Vision

To fulfill all mechanical seals and its components needs with affordable, competitive pricing and comprehensive solutions.

Our Mission

To deliver complete solutions that drive innovation and inspire excellence in product development

Our Motto

Customer-Focused Solutions, Financial Independence, and Strategic Excellence.

▶ Our Commitments

To maintain excellent quality in every aspect of our services with continued improvements in QC, Product handling, Customer interaction.

Competitive pricing along with good quality material.

Executing minimum order quantity within 7 to 12 working days and 6 to 7 weeks for bulk orders.

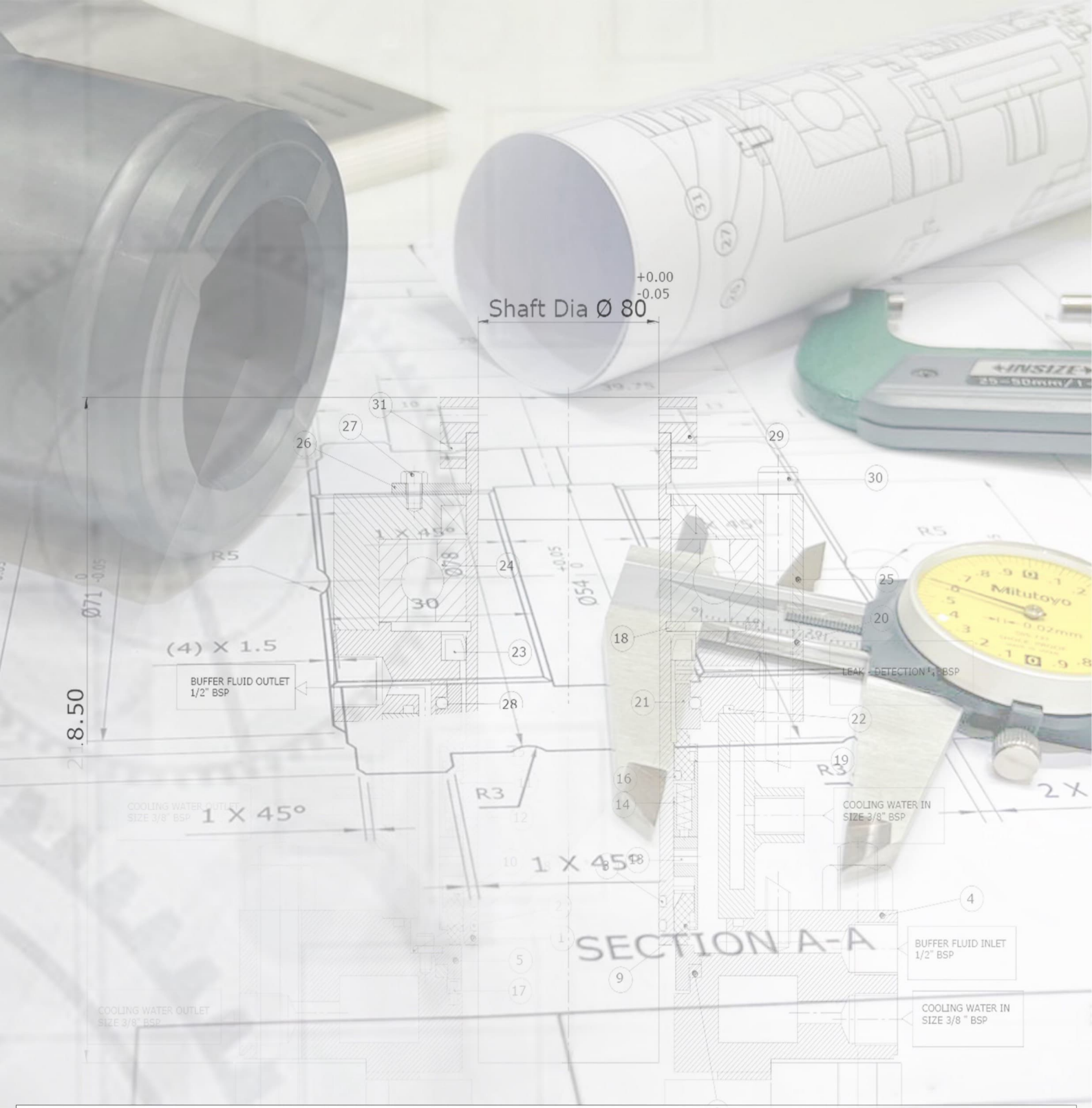
▶ Our Philosophy

Not Only fulfill the customer's expectations, but also exceed them. Our guiding principle thus places customer satisfaction at the center of our daily activities

Strategic Goals:
- Concentration on offering customer-oriented products and services.
- High flexibility of the company product portfolio.

Profit Target:
- Financial independence from credit institutions.
- Creation of risk cushion.

Financial Targets:
- Timely payments to our suppliers.
- Maintaining the financial balance.



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