



Define-Measure-Analyze-Improve-Control

**MANUFACTURER & SUPPLIER OF
CARBON GRAPHITE & CERAMIC PRODUCTS**

- ✓ Carbon Thrust Bearings
- ✓ Carbon Radial Bearings
- ✓ Carbon Segmented Rings
- ✓ Carbon Stocker Bush
- ✓ Carbon Seal Rings
- ✓ Carbon Rotors
- ✓ Carbon Vanes
- ✓ Carbon Blanks
- ✓ Carbon Blocks
- ✓ Carbon Metal Clad
- ✓ Silicon Carbide Rings (Bush / Bearing)
- ✓ Tungsten Carbide Rings (Bush / Bearing)
- ✓ Synthetic Graphite Rods
- ✓ Ceramic Seal Rings
- ✓ Ceramic Bush



CARBON GRAPHITE PRODUCTS FOR ENGINEERING APPLICATIONS

Carbon products manufactured by Dmaic carbon are top notch in terms of quality, specifically designed and manufactured according to your application and requirements. Made from highest quality raw materials and checked for utmost durability for high self-lubricating and high thermal resistance capacity, carbon products from Dmaic carbon have high resistance to acids, we also have products suitable for heavy loads and slurry resistance. We provide carbon graphite bush with various metal and non-metal impregnation for numerous applications.

Metal impregnated includes copper, antimony, bronze, nickel, ferrous, white alloy and any other materials for specific request. Resin impregnated- phenolic resins, synthetic resins, epoxy and other organic and inorganic compounds according to requirement. Various parameters like grain size and density can be controlled according to specific requests.

Carbon grades developed at Dmaic carbon is tailor made for every industrial harsh and demanding applications for automotive, aerospace, furnace, oil and gas, specific applications where dry running, extreme high temperatures are norms.

The extreme environments of the several industries require safe, reliable materials, and Dmaic is up for the task. We understand that several industries leave no margin for error. Our high-performance materials are uniquely qualified to meet the stringent demands of this industry, withstanding high speeds and extreme temperatures. These materials offer substantial wear resistance, high thermal stability, and excellent blister resistance to meet the strict requirements.

Founded on the principles of engineering precision and environmental stewardship, Dmaic Carbon Private Limited has grown to become a trusted name in the carbon manufacturing sector. Our products are crafted using cutting-edge technology and high-grade materials, ensuring superior quality, durability, and performance.

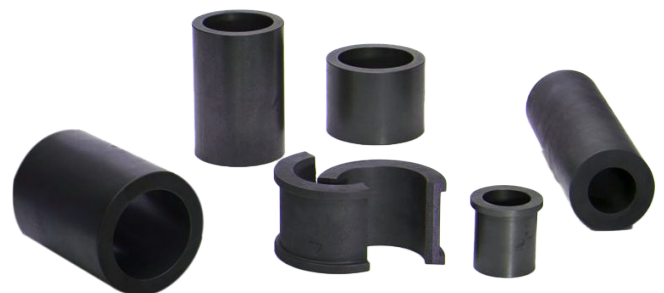
From powder to carbon products, Dmaic Carbon is a pioneering company dedicated to advancing sustainable solutions through carbon management and industrial innovation. As a carbon product manufacturer, Dmaic Carbon make every possible effort in putting its customers a step ahead by manufacturing different carbon grades for every customer as per specific applications.

With our machining feasibility we provide machined carbon components as per the customers requirement that is Carbon Thrust Bearing, Radial Bearing, Carbon Seal Ring, Carbon Gland Ring, Steam Joint, Vanes, Rotors and all other products for mechanical applications. We are also manufacturing Carbon Blanks & amp; Blocks, Carbon Bush supplying to leading mechanical seal manufacturers across the globe.



CARBON MATERIALS EXHIBIT DISTINCTIVE FEATURES SUCH AS :

- ✓ Suitability with nearly all typical counter face materials
- ✓ Extraordinary dimensional stability
- ✓ High fatigue strength
- ✓ Chemical stability
- ✓ Uniform strength even at high temperatures
- ✓ Excellent thermal shock behavior
- ✓ Excellent sliding and dry-running properties
- ✓ Low friction coefficients
- ✓ High heat conductivity
- ✓ Temperature resistance
- ✓ Excellent ratio of strength/bulk density



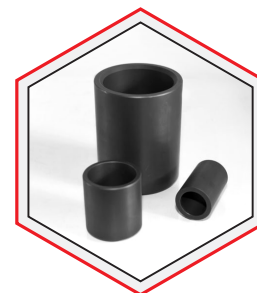


CARBON THRUST BEARINGS

Dmaic carbon graphite thrust bearing made from carbon or carbon composites, sometimes combined with graphite to improve lubrication and reduce wear, this are specifically developed for a aerospace, industrial machinery, marine, power generation, oil refineries etc. It is a high-performance, self-lubricating bearing designed to handle axial loads with minimal friction. We also cater for mass produced carbon thrust bearing for more commercial application like pump machineries with acidic and base solutions special batch requirement as per the customer demand as it is corrosion resistance and suitable for harsh environments.

CARBON RADIAL BEARINGS

Carbon Radial Bearing works better than LTB Bearing commonly used in submersible motor. When using media-lubricated carbon slide bearings, friction and wear considerably decrease in the presence of small quantities of liquid or vapors. Low coefficient of friction improves the overall efficiency and lower the starting current. Depending on the load, medium and geometry, hydrodynamic lubrication then begins in the liquids starting at a certain sliding speed. All Carbon grades retain the basic properties, thus making them as unique engineering material, and particularly suited for axial bearings which may operate in conditions beyond the limits of other material. In this state, no frictional wear occurs at all.



CARBON SEGMENTED RINGS

Dmaic Carbon individually matched material made of carbon-graphite or electro graphite with synthetic resin and antimony impregnation. The sealing effectiveness of Dmaic Carbon rings is achieved with a combination of careful design and painstaking craftsmanship in manufacturing. Multi-part seal rings made of our materials can be used with direct contact or without contact (with agap). Both rotating and oscillating movements are sealed with low friction using Dmaic material. Typical segment rings ends are either overlap or light-tight butt joints, and each joint is matched and marked.

CARBON STOKER BUSH

Carbon Stoker Bushes are typically made from high-quality graphite or carbon-graphite composites. Carbon-graphite stoker bushes are used in travel grate of boilers for high temperature applications because metal bushes need oil/grease lubrication, lubricants can start to melt, volatilize or carbonize above this temperature above about 350°F (177°C). These solid homogeneous materials do not contain oil/grease lubricants and they do not rely on oil/grease for lubrication. Thus, bearings manufactured from these carbon graphite materials are not subject to the shortcomings associated with petroleum-based lubricants and metals at elevated temperatures.

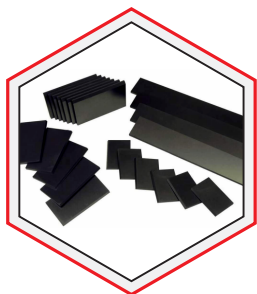
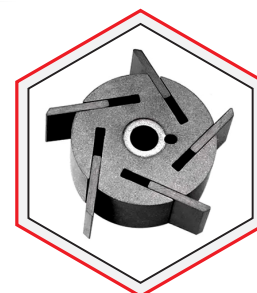


CARBON SEAL RINGS

Specifically developed grades for liquid and gas sealing, here at Dmaic carbon we are expert in manufacturing carbon graphite composite seal rings, we also machine and lap rings with different carbide grades for various application on request, combination of carbon and silicon carbide, carbon and tungsten carbide, carbon grades can be supplied in batch and production order. Maximum application include mechanical seal where slipping and high temperature dry running is demanded. These seal rings are often found in pumps, compressors, turbines, and other machinery where sealing integrity is critical.

CARBON ROTORS

At Dmaic carbon we have special and dedicated grades for carbon rotors, grades for application at temperatures up to 800 degrees Celsius for different types liquid and gases. Rotors can be designed and machined to required dimensions at Dmaic Carbon. From with standing high vacuum pressure to high surface speed and dry running, composition of rotors is tailor made according to application like braking system, generators, flow meter, air blowers, oscillating air compressors, turbine made for batch and mass production.

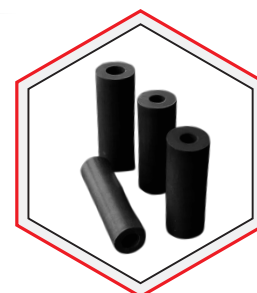


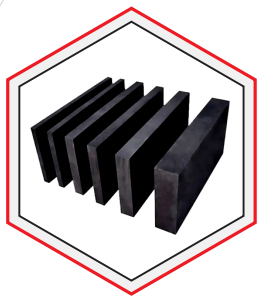
CARBON VANES

Carbon Vanes are components commonly used in rotary vane compressors, vacuum pumps, and other machinery that requires efficient, durable, and low-friction parts to manage the movement of air or fluids. Carbon vanes are self-lubricating and therefore, ideal for pumps, handling liquids such as petrol which has poor lubricating properties. They can also operate in unlubricated compressors to deliver air or gas uncontaminated by lubricating oil or grease. One of the most important requirements for vane materials is high mechanical strength. Carbon vanes meet this requirement. Their strength is indicated by the pressure regularly handled, which ranges from 3.2 kg f/cm² down to high vacuum conditions, with peripheral speeds up to 12.7 m/sec. At Dmaic Carbon vanes are made from carbon or carbon-based composites, these vanes are designed according to various application to slide in and out of slots to maintain a seal as the rotor turns, providing consistent performance under various operating conditions.

CARBON BLANKS

Dmaic Carbon blanks are pressed and made of carbon materials both impregnated and non-impregnated. The desired components or geometries can then be machined from them using just about any common process. here we can manufacture carbon blanks suitable application for various industries for thermal and other application. Carbon blanks are essential materials for various applications, including industrial, medical, and aerospace industries. They offer unique properties, making them valuable in diverse settings.





CARBON BLOCKS

Dmaic Carbon blocks are manufactured in typical brick layout and other shapes were application demands to withstand acids and alkaline attacks, here we can manufacture bricks suitable for acid and alkaline storing tanks in mass and batch quantity at very competitive price. Blocks should be of robust proportions and of simple design, if possible rectangular in shape.

CARBON METAL CLAD

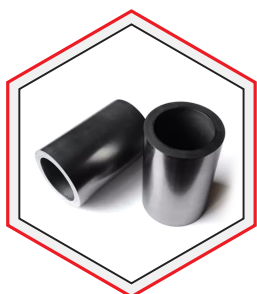
These are carbon or graphite core components that are coated or bonded with a layer of metal. Super useful in high-performance, high-stress, or extreme-environment applications. With high dimensional stability and dry-running capabilities, they guarantee steadfast sealing under the most demanding conditions while customized expansion coefficients minimize leakage, enhancing overall efficiency. They're carbon graphite materials known for being lightweight, strong, heat-resistant, and chemically stable with a metal layer added for enhanced properties like :

- ✓ Electrical or thermal conductivity
- ✓ Oxidation resistance
- ✓ Mechanical strength
- ✓ Improved machine ability
- ✓ Corrosion protection



SILICON CARBIDE RINGS / BUSH / BEARING - (SSIC & RBSIC)

Silicon carbide products are classified into many kinds according to different application environment. It is generally used more mechanically. It can also be used in combination with graphite material, and its friction coefficient is smaller than alumina ceramic and hard alloy, so it can be used in high PV value, especially in the condition of strong acid and strong alkali. For example, silicon carbide is an ideal material for silicon carbide mechanical seal because of its good chemical corrosion resistance, high strength, high hardness, good wear resistance, small friction coefficient and high temperature resistance. SiC be made into various carbide products, according to the special requirements of customers.



	Unit	Ssic	Rbsic
Purity	%	>98	>90
Density	(g / cm ³)	>3.10	2.98
Hardness Vickers I kg	kg / mm ³	2400	2200
Modulus of Elasticity	Gpa	420	390
Fracture Strength (MOR)	Mpa	450	420
Compressive Strength	Mpa	3200	2500
Thermal Conductivity	w / (m-k)	140	120



TUNGSTEN CARBIDE RINGS / BUSH / BEARING

Tungsten Carbide Rings are generally made with Cobalt as binder material. Tungsten Carbide Seal Rings are used as Mechanical Seal faces in pumps, Compressors and Agitators. Tungsten carbide is a dense, metal-like substance, light grey with a bluish tinge, that decomposes, rather than melts at 2,600° C (4,700° F).



SYNTHETIC GRAPHITE RODS

Graphite rods are manufactured from graphite with an extremely low level of impurities, typically achieving a purity level of 99.99% or higher. This level of purity, combined with advanced processing techniques, results in a material that boasts exceptional thermal, mechanical, and chemical properties. These rods find applications in high-tech industries such as electronics, aerospace, nuclear energy, and more. Graphite rods made artificially from hydrocarbon precursors; we have various synthetic graphite from various density to electric conductivity.

CERAMIC SEAL RINGS

Ceramic material refers to inorganic non-metallic materials made of natural or synthetic compounds through forming and sintering. It has the advantages of high melting point, high hardness, high wear resistance and oxidation resistance. A ceramic O-ring, also known as a ceramic seal, is a type of sealing device made from ceramic materials. Ceramic mechanical seal is widely used in machinery, chemical industry, petroleum, pharmaceutical, automobile and other fields. Because of its advantages, ceramic shaft seal has become Dmaic great choice for sealing materials.



CERAMIC BUSH

Ceramic bush are essential components in industries requiring high strength, precision and resistance to extreme conditions. Their exceptional hardness and thermal stability make them suitable for high-temperature environments, such as in furnaces, kilns, and welding operations. Ceramic Bush exhibit excellent wear resistance and dimensional stability, ensuring reliable performance in mechanical and electrical systems. Made from advanced ceramics like alumina, zirconia, or silicon carbide, these components excel in applications where metal alternatives may fail.

IMPREGNATION

Dmaic Carbon impregnated grade are made from fine-grained, high strength, carbon-graphite that is fully impregnated with chemically resistant resin or metal. The material is dimensionally stable so that carbon graphite product faces can be polished to one helium light band flatness, and the flatness is retained indefinitely. The material is chemically resistant to almost all liquids except extremely strong, oxidizing acids and alkalis. Carbon Graphite Bush, and Carbon Vanes machined from these blanks are impervious to high-pressure liquids.

Dmaic Carbon Products can be modified for various Impregnation such as :

- ✓ Resin Impregnated
- ✓ Antimony Impregnated
- ✓ Copper Impregnated
- ✓ Bronze Impregnated
- ✓ Babbitt Impregnated
- ✓ Nickel Impregnated
- ✓ Lead Impregnated

Grade	Impregnation Type	Bulk Density	Porosity	Hardness	Compressive Strength	Transverse Strength	Heat Resistance
		(g/cm ³)	%	Rockwell D	Mpa	Mpa	(°C)
DC-3105	Resin	1.85	1	90	210	70	200
DC-3106	Alkali Proof Resin	1.85	1	90	180	60	300
DC-3107	Carbon Graphite	1.85	2	70	210	50	200
DC-3108	Antimony	2.5	1	95	250	80	400
DC-3109	Lead	2.75	1	95	230	65	200
DC-3110	Copper	2.5	1	95	220	60	250
DC-3111	Copper & Tin	4.25	1	95	245	75	200
DC-3112	Bronze	2.5	1	90	210	60	400
DC-3113	Nickel	3.2	1	95	250	80	650
DC-3114	Babbitt	2.4	1	90	260	85	200


*** Any specified grade from above can be modified according to bulk density, compressive strength and heat resistance as per requirement for batch or mass production.**

All above grade are available in the bonded composite as well



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