



**DuraTight** 持久

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**Graphite Product •**

**石墨制品**

**青岛持久高新材料有限公司**  
Qingdao Hi-Duratight Co., Ltd

**DuraTight** 持久

◎ 集团简介

持久集团位于中国的港口城市青岛，具有多项自主知识产权和综合产品的研发能力，在管理体制上严格执行ISO9001-2008质量管理体系。下属控股子公司青岛持久碳业有限公司，青岛多头贸易有限公司，青岛持久新材料有限公司（印度）。

追求高质量是持久集团一贯的宗旨，为客户量身定做产品是我们的优势，为客户降低成本是我们的原则。持久将为您提供针对性的专业意见及一流的售后服务。

随着持久集团长期从事国外市场的研发、销售工作，国际化、多元化发展战略的推进，与国内著名企业间合作关系的发展，实现优势互补、资源共享、双赢发展的战略目标，持久品牌已经成为国内、外著名的品牌，持久将向本土企业海尔、海信、青岛啤酒等著名品牌学习，力争成为国际化品牌。

◎ Corporate Profile

Duratight Group locates in Qingdao port of China. Duratight has a number of independent intellectual property rights and integrated product development capability. Our administration system is strictly in conformity with ISO9001-2008 Quality System. Qingdao Duratight Group holds four companies, Qingdao Duratight Carbon Co., Ltd, Duratight Corporation Qingdao, Qingdao Hi-Duratight Co., Ltd and MTD Foundry Material Pvt. Ltd

High quality is the principle of Duratight. Making customized products is our advantage; cutting down the cost for customers is our principle. Duratight will provide professional advice and first-class service after sales.

Along with the domestic and foreign market development, relationships with the famous enterprises developing, Duratight has realized the complementary advantages; resources sharing and the win-win development strategic target. Duratight has become a domestic and international famous brand and will continue to learn from native famous enterprises, like Haier, Qingdao Beer to become an international famous brand.

◎ 产品简介

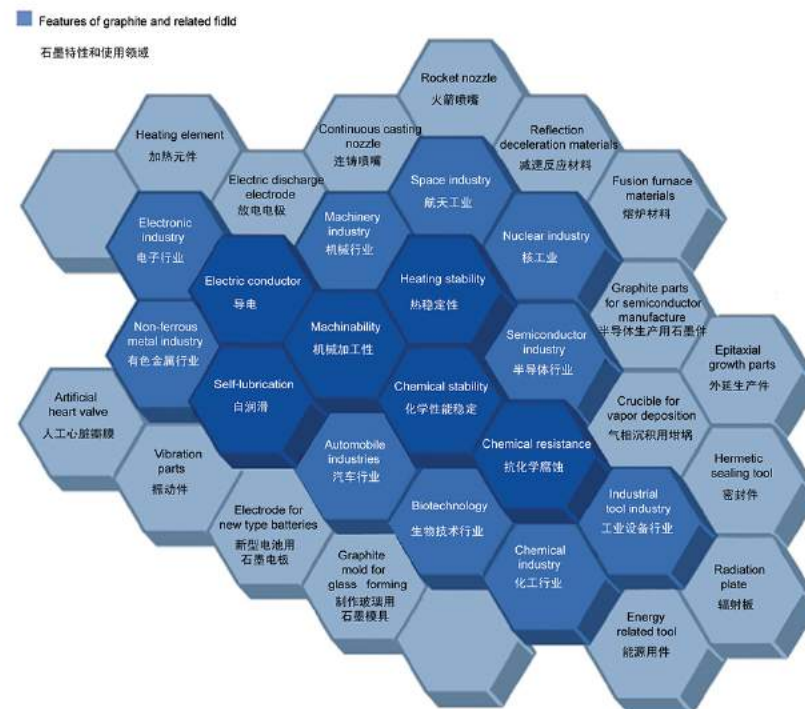
石墨(Graphite)的化学成分主要是单一的碳(C)元素，因为碳元素是非金属元素，所以说它非金属矿物；但是石墨却有金属材料的导电、导热性能，同时还具有象有机塑料一样的可塑性，并且还有特殊的耐热性能、化学稳定性、润滑和能涂敷在固体表面的等等一些良好的工艺性能。因此，石墨在冶金、机械、电气、化工、纺织、轻工、耐高温，建筑及国防等许多工业部门都得到了广泛的应用。

持久有着有着悠久的石墨生产历史，公司现有石墨产品加工经验工程师多名，高精度的数控机床及加工中心数台，可以对复杂工件及批量产品进行快速精确加工，同时公司配有三坐标测量仪等精密测量仪器及严格的检验流程以保证高精度产品的合格生产，有着专业的包装及发运团队，以保证货物安全到达客户手中。

◎ Product Introduction

The chemical composition of graphite is mainly simplex C element. Because C is non-metallic element, the graphite is non-metallic mineral. But graphite also has the properties of electric conduction and thermal conduction which belongs to metallic material. Also it has plasticity like organic plastic, resistance to effect of heat, chemical stability, lubricating ability, can be coated on solid surface and other good technics properties. So graphite is widely used in metallurgy, machinery, electricity, chemical, textile, light industry, construction, national defence industries etc.

Duratight has long history of manufacturing graphite, several engineers with graphite products processing experiences and high precision numerical control lathes and machining centers, can do swift and precise machining to complex workpieces and products in mass production. Three-coordinates measuring machine and other fine measuring instrument together with strict inspection flow guarantee eligible manufacturing of high precision products. Professional packing and transportation team guarantee the safe delivery of goods to customers.



◎ 石墨材料  
◎ GRAPHITE MATERIAL

产品描述

青岛持久的中细颗粒石墨块，石墨圆盘，细结构石墨，高纯石墨，耐磨石墨，等静压石墨以及石墨棒等，广泛用于冶金、机械、电子、化工、轻工、食品等工业领域和航空、原子能等新兴工业。



Product Description

Qingdao DuraTight medium particles graphite blocks, graphite disk, the fine structure graphite, high-purity graphite, wear-resistant graphite, graphite HIP as well as graphite rods, widely used in metallurgy, machinery, electronics, chemicals, light workers, food and industrial fields such as aviation, nuclear and other new industries.

高纯石墨 High purity graphite

主要技术指标  
Main technical index

货号 Product No.	密度 Density ≥g/cm <sup>3</sup>	气孔率 Porosity ≤%	抗压强度 Compressive Strength ≥MPa	抗折强度 Bending Strength ≥MPa	电阻率 Electrode Resistance ≤μΩ.m	灰分 Ash ≤%	颗粒度 Grain Size μm
DT-HPGM-01	1.75	22.0	55	27	15	0.01	32
DT-HPGM-02	1.77	21.0	58	28	15	0.01	32
DT-HPGM-03	1.80	19.0	65	30	15	0.01	32
DT-HPGM-04	1.82	18.5	68	33	15	0.01	32
DT-HPGM-05	1.85	15.0	78	40	15	0.01	32
DT-HPGM-06	1.88	13.0	82	42	15	0.01	32

产品规格

Dimension available:  
special dimension can be ordered on customer's demand

货号 Product No.	尺寸规格 Dimension (mm)
DT-HPGM-01	Ø120x160, Ø300x250, 650x200x120, 650x200x235, 780x210x120, 668x213x123
DT-HPGM-02	Ø100x250, Ø130x250, Ø150x250, Ø200x250, Ø250x250 280x280x110, 300x180x105, 400x130x100, 400x200x100, 420x120x80 420x140x5
DT-HPGM-03	280x150x110, 320x220x120, 320x270x120, 380x160x150, 410x130x80, 650x200x135, 780x210x120
DT-HPGM-04	Ø130x250, 230x150x150, 280x280x110, 300x205x105, 380x120x120, 485x120x120, 650x235x200, 668x213x143, 780x210x120, 800x300x290
DT-HPGM-05	413x125x124, 550x240x155, 580x310x200, 650x200x135, 668x213x143
DT-HPGM-06	413x125x124, 668x213x143

中细颗粒石墨 Secondary grain size graphite

主要技术指标

Main technical index

货号 Product No.	密度 Density ≥g/cm <sup>3</sup>	电阻率 Electrode Resistance ≤μΩ.m	抗折强度 Bending Strength ≥MPa	抗压强度 Compressive Strength ≥MPa	C.T.E 10 <sup>-6</sup> /°C	灰分 Ash ≤%	颗粒度 Grain Size μm
DT-LSGM-01	1.70	10.5	7.5	20.0	2.3	0.3	4.0
DT-LSGM-02	1.60	10.0	7.5	20.0	2.3	0.3	2.0
DT-LSGM-03	1.70	8.5	8.5	21.0	2.5	0.3	2.0
DT-LSGM-04	1.70	7.8	9.0	23.0	2.5	0.3	0.8
DT-LSGM-05	1.74	7.5	13.5	30.0	2.5	0.3	0.8

产品规格

Dimension available:  
Special dimension can be ordered on customer's demand.

货号 Product No.	尺寸规格 Dimension (mm)
DT-LSGM-01	630x630x2100
DT-LSGM-02	400x400x1800, 500x500x1900 Ø700x350, Ø800x350, Ø900x350, Ø1000x350
DT-LSGM-03	400x400x1800, 500x500x1900 Ø700x350, Ø800x350, Ø900x350, Ø1000x350, Ø640x450 Ø700x450, Ø760x450, Ø800x450
DT-LSGM-04	400x400x1800, 500x500x1900, 540x450x2200 540x350x2200
DT-LSGM-05	400x400x1800, 500x500x1900, 540x450x2200 540x350x2700, Ø700x350, Ø800x350, Ø900x350, Ø1000x350, Ø640x450, Ø700x450, Ø760x450, Ø800x450

等静压石墨 Isostatic/Isotropic graphite

主要技术指标 Main technical index

货号 Product No.	密度 Density ≥g/cm <sup>3</sup>	电阻率 Electrode Resistance ≤μΩ.m	抗折强度 Bending Strength ≥MPa	抗压强度 Compressive Strength ≥MPa	肖氏 硬度	C.T.E ×10 <sup>-6</sup> /°C	灰分 Ash ppm	颗粒度 Grain Size μm	弹性模量 GPa
DT-IG-01	1.70	15	25	55	50	3.5	700	25	9.5
DT-IG-02	1.75	15	28	65	50	4.0	700	25	10.5
DT-IG-03	1.80	15	37	80	50	4.5	700	25	11.5
DT-IG-04	1.85	15	40	90	55	4.8	500	25	11.5



细结构石墨 Fine grain graphite

主要技术指标

Main technical index

货号 Product No.	密度 Density ≥g/cm <sup>3</sup>	气孔率 Porosity ≤%	抗压强度 Compressive Strength ≥MPa	抗折强度 Bending Strength ≥MPa	电阻率 Electrode Resistance ≤μΩ.m	水分 Ash ≤%	颗粒度 Grain Size μm
DT-FGGM-01	1.75	22.0	55	27	15	0.2	32
DT-FGGM-02	1.77	21.0	58	28	15	0.2	32
DT-FGGM-03	1.80	19.0	65	30	15	0.2	32
DT-FGGM-04	1.82	18.0	68	33	15	0.2	32
DT-FGGM-05	1.85	15.0	78	40	15	0.2	32
DT-FGGM-06	1.88	13.0	82	42	15	0.2	32

产品规格

Dimension available:  
Special dimension can be ordered on customer's demand.

货号 Product No.	尺寸规格 Dimension (mm)
DT-FGGM-01	Ø120x160, Ø300x250, 650x200x120, 650x200x235, 780x210x120, 668x213x123
DT-FGGM-02	Ø100x250, Ø130x250, Ø150x250, Ø200x250, Ø250x250 280x280x110, 300x180x105, 400x130x100, 400x200x100, 420x120x80 420x140x5
DT-FGGM-03	280x150x110, 320x220x120, 320x270x120, 380x160x150, 410x130x80, 650x200x135, 780x210x120
DT-FGGM-04	280x150x110, 320x220x120, 320x270x120, 380x160x150, 410x130x80, 650x200x135, 780x210x120
DT-FGGM-05	413x125x124, 550x240x155, 580x310x200, 650x200x135, 668x213x143
DT-FGGM-06	413x125x124, 668x213x143



产品规格 Dimension available: special dimension can be ordered on customer's demand

货号 Product No.	尺寸 Dimension (mm)
DT-IG-01	Ø220x280, Ø260x500, Ø300x450, Ø350x400, Ø350x450, Ø400x400-450-600, Ø160x450-100-320, Ø500x400-450-500-600 400x400x400, 400x400x500, 400x400x600
DT-IG-02	
DT-IG-03	
DT-IG-04	

◎ 碳碳复合材料

◎ C/C composite materials

◎ 碳碳复合材料

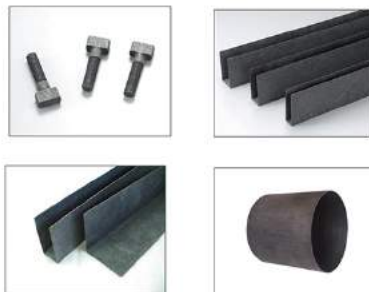
◎ C/C composite materials

碳碳复合材料

Carbon-Carbon composite materials

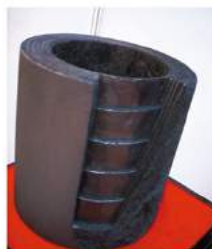
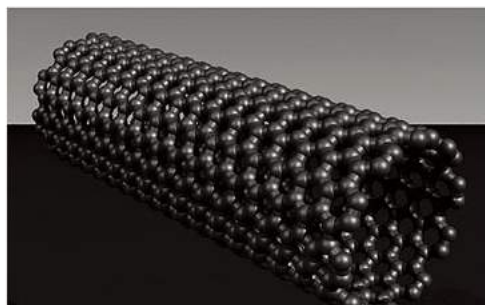
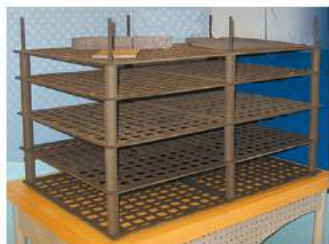
产品描述:

C/C复合材料(C/C)是采用聚丙烯腈基碳纤维(PAN-CF)经过特殊工艺复合、固化、沉积、纯化处理制得,具有高强度、高刚度、高密度、膨胀小、耐高温、抗腐蚀、耐摩擦、抗热震性稳定等特性,特别适合真空高温条件下做发热体、紧固件、传动件、支撑料盘等高温结构件。除在航空航天领域取得成功应用外,在真空冶金、化工新材料、原子能、半导体、电子新能源等领域也应用十分广泛。



Production description

C/C composite materials (C/C) are produced by polyacrylonitrile-based carbon fibers (PAN-CF) through a special process, high strength, high density, high thermal conductivity, expansion of small, high temperature, corrosion-resistant, wear-resistant, thermal shock resistance and stability properties, particularly suitable for high temperature vacuum heat to do physical, fasteners, transmission parts, support materials, such as high temperature structural plate. In addition to the field of aerospace has been successfully applied, in a vacuum metallurgy, new materials, chemical, chemical, atomic energy, semiconductor, electronics and other fields of new energy sources is also a wide range of applications.



碳碳复合材料指标 C/C composite materials

项目 Item	指标 Index	
主要材质 Material	PAN-CF	
体积密度 Bulk density (g/cm <sup>3</sup> )	1.2-1.8	
含炭量 Carbon (%)	≥98	
热导率 (1150°C) Coefficient of heat conductivity (W/m.k)	20-40	
抗折强度 Folding Strength (MPa)	36-200	
抗弯强度 Flexural Strength (MPa)	65-300	
电阻率 Electric resistivity (Ωmm <sup>2</sup> /m)	35-45	
灰分 Ash (%)	≤0.05	
处理温度 Processing temperature	1200-2500	
使用环境 Operating Condition	空气 in the air (°C)	≤400
	真空 in the vacuum (°C)	≥1800
	惰性气氛 in the inert atmosphere (°C)	≥3400
规格 Spec	长度 Length (mm)	定制 custom-tailor product
	宽度 Wide (mm)	
	厚度 High (mm)	

C/C复合材料的优点 The advantage of C/C composite material

	C/C 碳碳复合材料 C/C Composite Materials	
和“金属”比较 In comparison with "metal"	• 极小的热膨胀率 tiny thermal expansion rate • 很轻的重量 (只有铁的1/5) very light (one fifth of iron)	• 良好的耐热性 good heat resistance • 良好的耐腐蚀性 good corrosion resistance
和“石墨”比较 In comparison with "graphite"	• 更高的强度 higher strength	• 更好的韧性, 不易破碎 better ductility, not fragile
和“陶瓷”比较 In comparison with "ceramics"	• 更好的韧性, 不易破碎 better ductility, not fragile • 不易粘合 (不会胶合) not sticky (not easy to paste)	• 耐热冲击性好 good heat impact resistance • 容易加工 machining easily
和“树脂”比较 In comparison with "resin"	• 良好的耐热性 good heat resistance	• 良好的耐腐蚀性 good corrosion resistance • 高的摩擦系数 strong friction resistance



◎碳化硅涂层石墨产品

◎ SiC coating on graphite product

产品描述

持久集团生产的碳化硅石墨涂层产品是新近研发的新材料产品。它是在高温条件下，使特种气体释放出硅和碳，硅和碳结合，从而将特定形状石墨产品包裹起来，形成SiC保护层，所形成的SiC牢牢的粘附在石墨产品上，赋予石墨产品优良的性能。

碳化硅涂层石墨产品以人造石墨为基体，易于加工，广泛应用于冶金模具，电子半导体四件模具，冶炼用坩埚，高温状态下使用的叶轮等，表面进行这种复合材料涂层石墨模具的使用寿命比普通石墨模具长得多（约计使用寿命提高3-5倍），解决了石墨易于氧化，易于被冲刷带走的问题。



石墨流道  
Graphite flow channel



上引法石墨模具  
Graphite mould by upwards casting

Product description

The graphite products coated SiC in DuraTight Group is a new material product. In high temperature condition, the SiC coating releases C and Si, fuses them together and wraps up the graphite products to make a protective layer. The new SiC coating bonded up the graphite products closely will produce special and superior properties.

On the basis of artificial graphite, the graphite products coated SiC are easy to be processed and molded, widely used in metallurgy mold, four piece mold of electronic semiconductor, melting crucible, impeller under the condition of high temperature etc. With this coating on the surface, the graphite mould has the much longer working life than normal graphite mould (improving 3-5times of working life), resolving the problem of easy-oxidation and washing.



铜铝模具  
Copper aluminum mould



石墨扁排模具  
Graphite flat row mould

◎碳化硅涂层石墨产品

◎ SiC coating on graphite product



产品优势	
耐高温	High temperature resistance
抗氧化能力强(有氧状态, 1500℃以上)	Strong antioxidant ability(in aerobic condition, more than) 1500
耐腐蚀性强	High ability in corrosion resistance
化学性稳定不怕酸碱	Good chemical stability, acid and alkali resistance,
耐磨(是铸铁的20倍以上)	High abrasion resistance(20 times more than cast iron)
抗热冲击性好	Good thermal shock resistance
热膨胀系数小	Low coefficient of thermal expansion
热传递速度快	High speed of heat transfer.

◎ 柔性石墨

◎ FLEXIBLE GRAPHITE

柔性石墨板材、卷材、石墨带 Flexible graphite sheet, roll and tape



产品描述

将高碳鳞片石墨通过化学处理并经高温膨胀轧制而成，具有耐高温、耐腐蚀、抗辐照、蠕变松弛率低、柔韧性优异等特点。是制造各种石墨复合板、石墨带材、填料、密封垫片等的基础材料。使用温度-200℃-650℃（在空气中），-200℃-3000℃（在非氧化介质中）。

Product description

Flexible graphite sheet, roll and tape are made from flake graphite with high carbon content which is gone through chemical treatment, expanding under high temperature and then rolling. It has the characteristics of high temperature resistance, corrosion resistance, good elasticity, no binder or resins, and is the basic material for making all kinds of reinforced graphite sheets, graphite tapes, packing and sealing gaskets. Its using temperature is -200-650°C (in the air medium), -200-3000°C (in non-oxidizing medium).

主要性能:

Product property:

以下是指板材密度为1.0g/cm<sup>3</sup>时的产品性能，其他密度可按照您的要求加工生产。

The following properties are valid when sheet density is 1.0g/cm<sup>3</sup>, other density sheet could be manufactured on customer's demand.

项目 Item	A级 Grade A	B级 Grade B	C级 Grade C	D级 Grade D	E级 Grade E
含碳量 Carbon content (≥%)	99.5	99.2	99	98.5	98
含硫量 Sulphur content (≤PPM)	200	500	1000	1300	1500
含氯量 Chlorine content (≤PPM)	20	30	40	45	50
密度公差 Tolerance of density (g/cm <sup>3</sup> )	±0.03	±0.04	±0.04	±0.05	±0.05
厚度公差 Tolerance of thickness (mm)	<1±0.03; 1-1.5±0.03; >1.5±0.1				
拉伸强度 Tensile strength (≥MPa)	4.0				
压缩率 Compressibility (≥%)	40.0				
回弹率 Recovery (≥%)	10.0				



产品规格

Product specification

厚度 Thickness (mm)		宽度 Width (mm)	长度 Length (m)	密度 Density (g/cm <sup>3</sup> )
卷材 Roll	板材 Sheet	42-1500	1-910	0.7-1.5
0.05-1.600	0.05-3.000			



◎ 柔性石墨

◎ FLEXIBLE GRAPHITE

石墨增强复合板 Reinforced composite graphite sheet



产品描述

石墨增强复合板是由柔性石墨板材与金属及非金属板经机械压合或粘合而成，表面微密封性能优异，密封面平整度补偿能力强、压缩、回弹性好、应力松弛小，使用寿命长。

主要用于制造各种发动机的气缸垫片和冲制各种类型的密封垫片。

Product description

The product is formed by flexible graphite sheets together with metal plate or non-metal plate through pressing mechanically or sticking. It has excellent sealing properties for microscopic surface irregularities and strong compensation capacity for uneven sealing surface. It also has good compressibility, good resilience, small stress relaxation and long working life. It is mainly used for making cylinder gaskets of engines and punching into various kinds of sealing gaskets.

产品规格

1.0-3.0×1500×1500mm  
1.0-3.0×1000×1000mm  
也可按照您要求的尺寸制造生产

Size/Dimension available

1.0-3.0×1500mm×1500mm  
1.0-3.0×1000×1000mm  
Remark: Special size can be ordered on customer's demand.



主要性能:

Product property:

序号	名称 Product Name	压缩率 Compressibility	回弹率 Recovery %
1	不锈钢316/0.1mm冲孔石墨复合板 Composite Graphite sheet with 0.1mm perforated SS316 inserted	30-40	≥15
2	不锈钢304/0.1mm冲孔石墨复合板 Composite Graphite sheet with 0.1mm perforated SS304 inserted	30-40	≥15
3	不锈钢316/0.05mm冲孔石墨复合板 Composite Graphite sheet with 0.05mm flat SS316 inserted	40-50	≥10
4	不锈钢304/0.05mm冲孔石墨复合板 Composite Graphite sheet with 0.05mm flat SS304 inserted	40-50	≥10
5	镍钨钨0.2-0.25mm冲孔石墨复合板 Composite Graphite sheet with 0.2-0.25mm flat Ni-W inserted	10-30	≥20
6	普通碳钢0.2-0.25mm冲孔石墨复合板 Composite Graphite sheet with 0.2-0.25mm ordinary carbon steel inserted	10-30	≥20
7	金属网石墨复合板 Composite Graphite sheet with metal mesh inserted	30-40	≥15
8	非金属纤维石墨复合板 Composite Graphite sheet with non-metallic fiber inserted	40-50	≥10
9	聚四氟乙烯石墨复合板 Composite Graphite sheet with polytetrafluoroethylene film inserted	40-50	≥10
10	金属丝石墨复合板 Composite Graphite sheet with metal wire inserted	40-50	≥10

◎ 机械、化工、水处理用石墨

◎ Graphite series application for machinery, chemical industry and water disposal

产品概述

我厂生产的各类石墨制品广泛用于现代工业的各种机械设备中。由于其具有自润滑、耐高低温、耐腐蚀等特性，所以能满足强腐蚀、易燃易爆及放射性介质下密封要求。有效地解决了化工设备中“跑、冒、滴、漏”等问题。对于改善劳动条件，提高产品质量和生产率有很好的成效。该类产品广泛应用于各种泵及搅拌机、高温高压染色机、压缩机，化工反应釜机械密封组件的密封环，制氧机，鼓风机的活塞环，屏蔽电机，衬套加潜水电机及各种仪表用石墨轴承，汽油泵，真空泵气体压缩机，印刷机复合气泵等装置中的旋；化工设备中的安全爆破膜，板；卷烟设备中的配气盘，弧形块等等。

Product Description

All kinds of graphite products in DuraTight group widely used in the modern industrial machinery and equipment. Because they have self-lubricating, high and low temperature resistance, corrosion resistance and other characteristics, to meet strong corrosion, inflammable, explosive and radioactive media request under seal. Our products effectively solve many problems such as "drip and missed" for chemical machines and can improve working conditions, product quality and productivity. Such products are widely applicable to different types of pumps and mixing machinery, high temperature and high pressure dyeing machines, compressors, chemical reactor components of the mechanical sealing ring, the oxygen machine, the Piston Ring Blower, shielding motor, and the hub motor and diving various instruments used graphite bearings, gas pumps, vacuum pumps gas compressor, printers and other devices composite pump in the rotation; chemical equipment in the safety of blasting films, plates, cigarette equipment in the gas disk allocation, curved block, and so on.

石墨轴承 Graphite bearing



产品描述：

持久生产的石墨轴承以石墨材料为主要基材，应用于食品、饮料、纺织、化工等工业部门中的运输机、干燥机、纺织机、潜水泵电机的轴承方面，这些部位如用油脂润滑剂不可避免会引起污染，而石墨轴承的自润滑性很强，耐腐蚀，可不使用润滑油而进行长期运转。根据客户需求，为了提高制品的机械强度，特别是为了提高耐冲击韧性，常用一些耐磨性能好的易熔金属进行浸渍处理。



Product description

DuraTight graphite bearing is made from high quality graphite materials, and widely used in transportation machine, drying machine, textile machine, sinking pump, within food, beverage, textile, chemical industry. Using oil lubricant will surely cause pollution, instead the graphite bearing has excellent self-lubricating property, corrosion resistance, and can run long time without lubricating oil. Meanwhile, we use fusible metals to impregnate the whole surface of graphite bearing to improve the mechanical strength, impact resistance strength.

◎ 机械、化工、水处理用石墨

◎ Graphite series application for machinery, chemical industry and water disposal

石墨阳极板 Graphite anode plate



产品描述：

与其他材质相比石墨阳极板具有耐高温、导电导热性能良好，易机械加工，化学稳定性好，耐酸碱腐蚀，灰份低等优点；用于电解水溶液，制取氯，苛性钠，电解食盐溶液制取碱；例如应用石墨阳极板可作为电解食盐溶液制取烧碱的导电阳极。应用石墨阳极板可作为电镀行业的导电阳极，是用于各种电镀的理想材料；使电镀的产品具有光滑、细腻、耐磨、耐腐蚀、亮度高、不易变色等优点。

主要技术指标

Main technical index

项目 Item	指标 Index			
	一级 Grade A	二级 Grade B	三级 Grade C	四级 Grade D
电导率 Electrode Resistance S/cm	7.8	7.8	8.5	8.5
灰分 Ash %	0.3	0.3	0.3	0.3
颗粒度 Grain size μm	0.8	0.8	2	2
抗压强度 Compressive ≥MPa	21	21	20	20
体积密度 Bulk Density ≥g/cm <sup>3</sup>	1.72	1.68	1.68	1.58

Product description

Compared with other materials, graphite anode plate or rod (also named as graphite positive plate or anode) possess many excellent properties, such as high temperature durability, good heat and electricity conductivity, easy mechanical processed, fine chemical stability-corrosion resisting, low ash content, etc. It is mainly used for electrolysing water solution to get Cl<sub>2</sub>, NaOH. Besides, it can be used in electrolysing NaCl solution to get alkali. For example, the graphite anode plate is used as the positive plate when getting NaOH from electrolysing NaCl solution. Meanwhile, the graphite anode are widely used in electroplate industry making the formed product with the advantage of durability, corrosion resisting, good lightness, etc.

石墨刮片 Graphite vane



产品描述：

我公司生产石墨刮片具有耐化学腐蚀、无油润滑、耐高底温、热稳定性良好等特性，被广泛应用于工业的各种机械设备中，在各种制氧机、真空泵、压缩机、加油机和印刷包装设备中由于禁油，因此具有润滑性能的石墨刮片被广泛使用。

主要技术指标 Main technical index

体积密度 Density ≥g/cm <sup>3</sup>	硬度 Shore hardness	气孔率 Porosity ≤%	抗压强度 Compressive ≥MPa	抗折强度 Bending Strength ≥MPa	使用温度 Temperature ≤℃
1.65	≥60 (HS)	2	125	61	200
1.80	≥36 (HS)	3	52	22	200
1.90	≥50 (HS)	18	86	42	400
1.92	≥50 (HS)	2	88	42	200
1.74	105 (HS)	1	150	75	180
1.85	90 (HS)	10	150	58	600

Product description

DuraTight graphite vane, with the good properties of corrosion resisting, self-lubrication, high and low temperature durability, thermal stability, are widely used for various mechanical equipment. It widely works as the fine lubrication in various vacuum pump, compressor, and packing equipment because of the oil-forbidden property.

◎ 机械、化工、水处理用石墨

◎ Graphite series application for machinery, chemical industry and water disposal

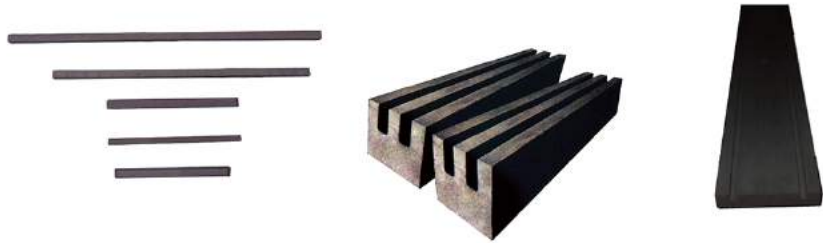
石墨条、石墨导轨 Graphite strip, Graphite rail

产品描述

石墨条、石墨导轨产品说明：  
持久石墨条、石墨导轨选用优质石墨材料进行特殊加工，具有很强的自润滑性能，在没有润滑剂的条件下与许多金属部件摩擦时，石墨部件的摩擦系数只有0.04-0.05，其摩擦系数低，并且热稳定性很高，具有较高的导热系数，热膨胀系数又比较低，特别是对大多数酸碱及盐类溶液都不起化学反应。可根据客户要求加工各种形式大小长度的导轨。

Product description

Duratight graphite rails and strips choose high-quality graphite raw material after special processing. When rubbing with metal parts in the absence of lubricant, the friction coefficient of the graphite parts is only 0.04-0.05, having low friction coefficient, high thermal stability, high thermal conductivity, low thermal expansion coefficient, especially no reaction to most of acid, alkali, and salt solution chemicals. Easy to be machining processed; can be manufactured into a variety of geometrical products of different lengths.



石墨衬板 Graphite lining

产品描述

持久石墨衬板具有：耐高温，自润滑性能好，便于推拉，不易附着其他物体，强度高，不易破损，主要用于各种机械模具下部隔热润滑等用途。

Product description

Duratight graphite linings have such characteristics as high temperature resistance, good self-lubrication property, easy to push and pull, not easy to attach other substances, high bending and compression strength, not easy to damage, and are mainly used in lower parts for various machinery moulds for thermal insulation and lubrication usage.



◎ 高温行业用石墨

◎ The graphite series application for high temperature industry

石墨模具 Graphite mould



产品描述:

我厂供应高纯石墨模具，用于电子烧结行业的烧结模具，有色金属连续铸造用结晶器，铜铝排生产用石墨模具，化工机械密封，高耐磨石墨、压铸模，地质钻头烧结模具、工业电炉、热等静压设备的各种石墨发热元件、各种发热体、加热器及生产单晶硅的加热器和屏蔽罩等。铝材用塞棒、底碗底座、浇注管、流槽护套、石墨环、滚筒、条板。金刚石制品模具、镜片模具、钻头模具、滚筒模具、磨边轮、坩埚及各种异形模具。经销各种优质高纯石墨材料及特种石墨G4材料、电火花、连铸料、方料、圆料。

Product description

Duratight can offer you high purity graphite moulds, which are widely used as Electronic sintering mould in Electronic sintering industry, continuous casting crystallization, the graphite mould used for copper aluminium row production, machine sealings, wearable graphite, die-casting mould, industry electric cooker, various graphite heater components. We are supplying all kinds of fine high-purity graphite material and special graphite G4 material, diamond mould, drills. Duratight products are widely used in many fields like mechanism, moulds, petroleum, chemistry, textile, diamond tools and so on. Our main products cover more than 1800 size of graphite moulds, including graphite moulds for upward oxygen free copper rod, graphite moulds for copper pipe continuous casting, protective sheath, lining, flaky graphite, graphite sleeve, chutes, plugs, moulds for aluminium or copper continuous casting, sealing in chemical engineering machinery etc.

石墨结晶器 Graphite crystallizer



产品描述:

利用贯通的结晶器在一端连续地浇入液态金属，从另一端连续地拔出成型材料的铸造称为连续铸造法。连续铸造适用于铁、钢、铜、铅、镁等合金的断面形状不变和长度较大的铸件生产。结晶器是连续铸造设备的核心，目前有色金属铸造结晶器一般都采用导热性较好，具有一定强度的石墨材料。

我公司生产的石墨结晶器均采用高纯石墨，适用于各种有色金属水平连续铸造。铸出的成型材料有方形、长方形、圆形、平板型、管形或各种异形截面。该产品性能优异，尺寸精度高，使用寿命长。

Product description

Using the connecting crystallizer, pouring in liquid metals in one side, and extracting formed material continuously from another side are continuous casting process. It is suitable for producing the same section and the higher length of casting products, such as iron, steel, copper, lead, magnesium. The crystallizer is the heart of the continuous casting machines. The metal casting crystallizer is usually made from the graphite materials with the excellent thermal conductivity and higher strength.

Duratight graphite crystallizer is made from high purity graphite, and can meet the horizontal continuous casting of all non-ferrous metals. The formed material is including the square, oblong, round, flat, tube, and various deformed section shape and has the characteristic of higher dimensional accuracy, and long working life.



◎ 高温行业用石墨

◎ The graphite series application for high temperature industry

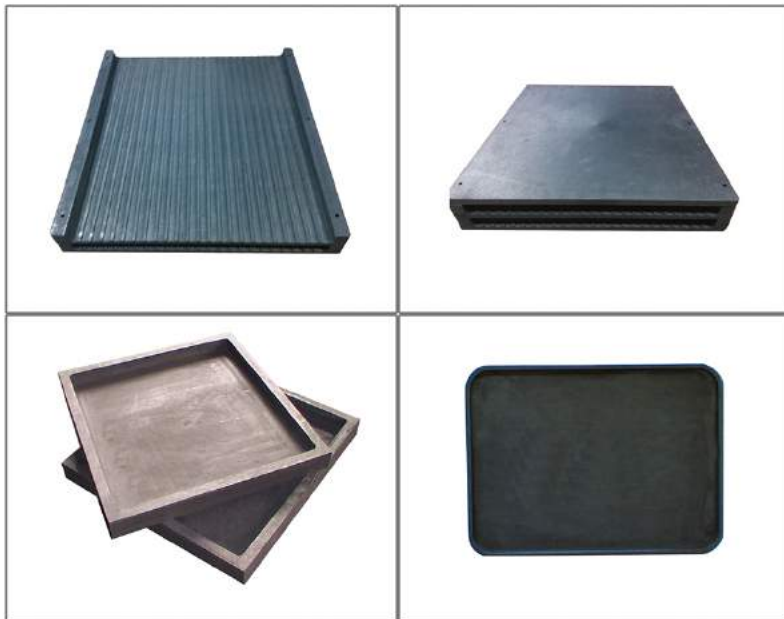
烧结盒、烧结托盘 Sintering box, Sintering tray

产品描述

持久石墨料盘选优优质石墨材料进行特殊加工具有：耐高温，自润滑性能好，便于推拉，不易附着其他物体，强度高，不易破损，在没有润滑剂的条件下与许多金属部件摩擦时，石墨部件的摩擦系数只有0.04-0.05，其摩擦系数低，并且热稳定性很高，具有较高的导热系数，热膨胀系数又比较低，不易变形，尺寸稳定。可根据客户要求加工各种形式大小的石墨料盘。

Product description

Duratight graphite sintering box and sintering tray are made from high quality material and is specially machined, having many properties like high temperature resistance, good self-lubricant, easy to push and pull, does not cling other substances easily, high hardness, nonbreakable. When rubbing with metal parts in the absence of lubricant, the friction coefficient of the graphite parts is only 0.04-0.05, have low friction coefficient, and good thermal stability, high coefficient of heat conductivity. Duratight graphite product also has low coefficient of thermal expansion, won't be out of shape easily, have stable dimension. We can make graphite products with varieties of forms and sizes according to customers' requests.



◎ 高温行业用石墨

◎ The graphite series application for high temperature industry

电子烧结模具 Electron Sintering Graphite Mould

产品描述

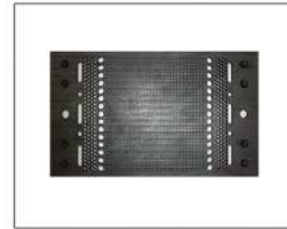
持久采用优质石墨原材料大大延长了使用寿命，降低了对电子元器件的粉尘污染，产品精度高，抗氧化性能好，并为客户进行专业设计制造，附加加工各种模具配件，是替代进口件、实现国产化的选择。已先后成功为多家电子、半导体等行业中对产品精度要求较高的国内企业成功实施了模具国产化，客户的成本大幅度降低，使客户获得了巨额经济效益。

产品主要用于各种玻封二极管、贴片、塑封二极管、三极管、整流桥、热敏电阻、石英晶体、固体放电管、桥堆、等各种元器件的焊接成型用石墨模具及内组装工装夹具。欢迎广大客户来电来函咨询洽谈，定制。

Product description

Duratight electron sintering graphite mould is made from high quality graphite material which can increase service life of mould and reduce the powder pollution to electronic components. Duratight graphite mould has high precision and good anti-oxidation properties. We can also provide professional design for our customer, and process all kinds of mould parts which can be the substitute of imported parts. We have supplied graphite mould to many domestic electron and semiconductor enterprises which need high precision products, having helped our customers reduce cost substantially and let them gained great profits.

Our graphite mould are mainly used in welding fabrication of all kinds of components and parts such as glass diode, patch, plastic diode, audion, rectifier bridge, thermistance, quartz crystal, solid discharge lamp. We can also supply the clamps used in inner assembling of graphite moulds. Welcome to contact us or visit our company to discuss the business and custom-make products.



金刚石烧结模具 Diamond Sintering Mould

产品描述

金刚石模具要求材质硬度高，抗氧化性能好，加工精度高等特点。持久采用优质石墨原材料大大延长了模具使用寿命和提高了抗氧化性能并为客户进行专业设计、制造的高精度金刚石烧结模具，附加加工各种模具配件，是替代进口件、实现国产化的选择。已先后成功为多家行业中对产品精度要求较高的国内企业成功实施了模具国产化，客户的成本大幅度降低，使客户获得了巨额经济效益。欢迎广大客户来电来函咨询洽谈，定制。

Product description

Diamond mould requires graphite material with high hardness, good anti-oxidation property and high process precision. Duratight diamond mould is made from high quality graphite material which can increase service life and anti-oxidation property of the mould. We can provide professional design of diamond sintering mould for our customer, and process all kinds of mould parts which can be the substitute of imported parts. We have supplied graphite mould to many domestic enterprises which need high precision products, having helped our customers reduce cost substantially and let them gained great profits. Welcome to contact us or visit our company to discuss the business and custom-make products.



◎ 高温行业用石墨

◎ The graphite series application for high temperature industry

石墨转子 Graphite rotor



产品描述:

我厂加工的石墨转子工作原理为旋转的转子将吹入铝熔体中的氮气(或氩气)破碎成大量的弥散气泡,并使其分散在金属液中。气泡在熔体中靠气体分压差和表面吸附原理,吸收熔体中的氢,吸附氧化夹杂,并随气泡上升而被带出熔体表面,使熔体得以净化。由于气泡细小弥散,与旋转熔体均匀混合,并随之转动呈螺旋形缓慢上浮,与熔体接触时间长,不会形成连续直线上升产生的气流,从而显著提高了净化效果。

Product Characters:

The working principle of graphite rotor which was designed and produced by DuraTight is: the whirling rotor breaks the nitrogen (or argon) which was blown into the aluminium fusant into large quantities of dispersing bubble and let the bubble spread into the liquid metal. According to the theory of gas partial pressure difference and surface absorption, the bubble in the fusant absorb the hydrogen of the fusant and the oxidation residue and put them to the surface of fusant with the rise of bubble. So the fusant is purified. Because the bubble is tiny and dispersing, can mix with whirling fusant equably, twist and rise slowly with the fusant. The bubble keeps a long touch with the fusant, there will be no airflow which is occurred by the continuous and straight rising airflow, so the purifying performance can be notably improved.

产品特点:

- ◆旋转精炼除气机分为可移动及固定式等方式,分别适用于不同的操作环境。
- ◆除气率在50%以上,缩短冶炼时间,降低生产成本。
- ◆适用于对坩埚炉、浇包、静止箱内的铝液进行净化处理。
- ◆表面经抗氧化处理,使用寿命是普通产品的5倍左右,广泛应用于铝合金铸造行业。

Product Characteristics:

- ◆Rotating disperse machine has two kinds of movable and stable styles and they are used in different operating conditions.
- ◆Disperse rate is over 50%, as a result it can shorten the smelting time and reduce the production cost.
- ◆Be used in purifying aluminium solution in crucible, casting ladle, stationary case.
- ◆After anti-oxygenation process in the cover, its working life is more than five times of normal ones and it's widely used in the Al-alloy casting field.

石墨加热体 Graphite Heating Member



产品描述:

石墨加热体是真空镀膜,真空炉等设备的易损配件。其质量的好坏直接影响镀膜层的质量和产出成本。持久石墨加热体选用优质原材料,加工而成,具有气孔率低,抗折强度大,导电性能良好,电阻稳定,均衡,耐温性好,能耗低等特点。

Product Characters:

Graphite heating member is the rapid wear parts of vacuum aluminium plating equipment, vacuum furnace etc. The quality of the graphite heating member is the direct influence factor to the quality of aluminium coated and the manufacturing costs. DuraTight graphite heating member is made from high quality material, has many properties like low porosity, high flexural strength, good electric conductivity, stable and uniform resistance, fireresistant and low energy consumption.

◎ 高温行业用石墨

◎ The graphite series application for high temperature industry

石墨坩埚 Graphite crucible



产品描述:

我厂加工、生产各种材质和形状的石墨坩埚,欢迎来图来样加工,并请您告知我们您需要的产品的使用工况,我们将为您推荐最合适的材质,提供最满意的产品和服务。生产的坩埚有以下特点:

- **热稳定性:** 针对石墨坩埚急冷急热的使用条件,进行特别设计以保证产品质量的可靠性。
- **耐侵蚀性:** 均匀细密的基体设计,延缓了坩埚的受侵蚀度。
- **耐冲击性:** 石墨坩埚所能承受的热冲击强度极高,所以任何工艺处理都可以放心进行。
- **耐酸性:** 特殊材料的加入显著改善坩埚的品质,在耐酸化指标方面表现卓越,并大大地延长石墨坩埚的使用寿命。
- **高热传导性:** 高含量的固定碳保证了良好的热传导性,缩短溶解时间,并显著地降低了耗油量或其他能耗。
- **金属污染的控制:** 材料成分的严格控制,保证了溶解时石墨坩埚对金属没有污染。
- **质量稳定性:** 高压成形法的制作工艺和质量保证体系更充分地保证了质量的稳定性。

Production description

DuraTight can process and manufacture many kinds of graphite crucibles with different geometric form and material. We welcome you forwarding your samples or drawings to us, and inform us the working conditions of the crucible, we will recommend the most suitable materials and provide considerate services for you. DuraTight crucible has the following advantage:

- Thermal stability: We make special design to assure the quality according to the instant temperature changing working condition.
- Corrosion resistance: precise design extend the ability of corrosion resistance of the crucible.
- Impulsion resistance: DuraTight graphite crucible can stand very strong heat impulsion, so it can be freely used in any technic process.
- Acid resistance: Impregation of special stuff can improve the quality of the crucible and it's outstand in the acid resistance. So it can prolong the work life of the graphite crucible.
- Fine thermal conductivity: High content of fixed carbon ensures the good thermal conductivity, shorten the dissolving time and lower the cost of the oil and other energy obviously.
- Control of metallic pollution: Strict control of the contents assures that there is no pollution to the metal during dissolving.
- Quality stability: High-pressure manufacturing method and quality control system can pledge the quality stability better.