

机械密封用材料

Materials of mechanical seal

通用特性: General characteristics:

具有良好的自润滑性,耐腐蚀性,摩擦系数低,导热系数高膨胀系数小等特点。

It has many advantages, for example, good self-lubricating property, corrosion resistant property, lower coefficient of friction, higher coefficient of heat conductivity, lower coefficient of thermal expansion, etc.



碳石墨环 Graphite ring

碳石墨性能参数 Performance parameter of graphite

牌号 Just	M106K	M106D
硬度Hardness (HS)	≥90	≥85
密度Density(g/cm ³)	≥1.7	≥2.2
热胀系数Coefficient of thermal expansion(10 ⁻⁶ /°C)	6.5	7.2
使用温度Working temperature(°C)	≤180	≤400

通用特性: General characteristics:

具有较强耐化腐蚀性能,较高机械强度,耐磨性好,耐高温,自润滑性好,与碳石墨相对,是最佳匹配材料。

it is in high corrosion resistant and wearing resistant, has a higher mechanical strength, a good resistance to elevated temperature, and a good self-lubricating property. This is the best material matching to graphite



碳化硅 Silicon carbide

碳化硅性能参数 Performance parameter of Silicon carbide

牌号 Just	sic	ssic
硬度Hardness (HS)	≥100	≥105
密度Density(g/cm ³)	≥3	≥3.05
热胀系数Coefficient of thermal expansion(10 ⁻⁶ /°C)	4.5	4.3
使用温度Working temperature(°C)	≤600	≤600

通用特性: General characteristics:

具有高耐腐蚀性,高抗弯强度和导热系数,膨胀系数小,是耐热冲击系数最高的密封环材料。

Tungsten carbide - it is in high corrosion resistant, has a high bend strength, a lower coefficient of thermal expansion and a higher coefficient of heat conductivity. It is the seal ring material that has the highest coefficient of thermal impact.



碳化钨 Tungsten carbide

碳化钨性能参数 Performance parameter of Tungsten carbide

牌号 Just	TC-Ni8%
硬度Hardness (HS)	88~91
密度Density(g/cm ³)	14.8~15
热胀系数Coefficient of thermal expansion(10 ⁻⁶ /°C)	5.3
使用温度Working temperature(°C)	≤600

通用特性: General characteristics:

具有优异的耐腐蚀性能,耐磨性好,热胀系数小,广泛应用于中低负荷机封,耐热冲击性较差。

it is in excellently corrosion resistant and wearing resistant, and has a lower coefficient of thermal expansion. It is widely used in medium and lower load mechanical seals. But its thermal impact property is not good.



氧化铝 Aluminum oxide

氧化铝性能参数 Performance parameter of Aluminum oxide

牌号 Just	95瓷	97瓷	99瓷
硬度Hardness (HS)	82	85	87
密度Density(g/cm ³)	3.6	3.7	3.8
热胀系数Coefficient of thermal expansion(10 ⁻⁶ /°C)	5.8	5.5	5.3
使用温度Working temperature(°C)	≤100	≤100	≤120

普通橡胶"O"型圈 Normal rubber "O" ring

性能参数: Performance parameter

品名 Name	性能 Performance	安全使用温度(°C) Safe working temperature	
		动环用 For rotating seal ring purpose	静环用 For stationary ring purpose
丁腈胶 Acrylonitrile rubber	耐温、耐磨、压缩永久变形小 It is resistant to elevated temperature and wearing, and has a lower permanent compression deformation.	-20~80	-30~100
氟橡胶 Fluorine rubber	具有高抗胀强度,耐热性好 It has a higher anti-expansion strength and good heat resistant property.	-20~150	-20~180
乙丙胶 Ethylene propyl- ene rubber	耐气候性好,耐溶剂性能好 Good weathering resistance and solvent resistance.	-20~150	-40~180
硅橡胶 Silicon rubber	具有宽广的工作温度,无毒无味 It has a wide working temperature range and is innocuous and odorless.	-40~180	-60~200



通用特性: General characteristics:

具有良好的弹性和柔韧性,压缩永久变形小,常用材料有丁腈胶,氟橡胶,乙丙胶,硅橡胶等。

It has good elastic property and flexibility, and a lower permanent compression deformation. The common materials to be used are butyronitrile rubber, fluorine rubber, ethylene propylene rubber, silicon rubber, etc.

全氟橡胶"O"型圈 Fluorine rubber "O" ring

性能参数: Performance parameter

品名 Name	性能 Performance	安全使用温度(°C) Safe working temperature	
		动环用 For rotating seal ring purpose	静环用 For stationary ring purpose
M1075	最广泛的耐化学腐蚀性能,低压缩永久变形。 Most widely resistance to chemical corrosion and lower permanent compression deformation	-15~250	-15~260
M3075	耐温最高,低压缩永久变形 Highest resistant to elevated temperature and lower permanent compression deformation	-15~300	-15~316



通用特性: General characteristics:

具有优异的耐化学腐蚀性能,耐酸、碱、酮、酯、醚、强氧化剂等1600多种化学品,是所有弹性体中最耐高温,可达316°C。

It has excellent chemical corrosion resistant property and resistances to acid, alkali, ketone, ester, ether, strong oxidant and other more than 1600 types of chemicals. In addition, it is the most resistant to elevated temperature up to 316°C among all rubber.

包覆橡胶"O"型圈 Rubber coated "O" ring

性能参数: Performance parameter

品名 Name	性能 Performance	安全使用温度(°C) Safe working temperature	
		动环用 For rotating seal ring purpose	静环用 For stationary ring purpose
全包覆FEP Fully coated with FEP	耐温,耐腐蚀 Resistant to elevated temperature and corrosion	-20~180	-50~200
全包覆PFA Fully coated with PFA	耐高温,耐腐蚀 Resistant to elevated temperature and corrosion	-20~220	-50~250
双层包覆PTFE Double layer coat of PTFE	耐磨,耐高温,耐强腐蚀 Resistant to wearing, elevated temperature, and corrosion	-20~220	-50~250



通用特性: General characteristics:

"O"型圈内芯为橡胶,外层为FEP,PFA或PTFE四氟乙烯,包覆加工后具有橡胶的良好弹性,同时又有优异的耐温,耐腐蚀性能。

The inner part of "O" ring is rubber and the outer part is FEP, PFA, PTFE, or tetrafluoroethylene. It has elastic property as good as rubber, excellent heat resistant property, and corrosion resistant property after coating treatment.