

Component materials of EKK mechanical seals

Typical characteristics of mechanical seal component materials are shown. Sufficient P.V.T. values must be taken into account when determining operating temperature of sliding materials.

Classification	Sign	Characteristics, application	Hardness	To	T	$\times 10^{-6} 1/$
Metallic materials	SUS316	Stainless steel used as ordinary metallic material for mechanical seals	H _b 187max.			18.7
	HAS-C	Equivalent to Hastelloy C (Ni alloy) used as anticorrosive metal	H _b 241msx.			12.7
	TB340	Titanium class 2 used as acid-proof and retainer material	H _b 110max.			9
	CAP-20	Equivalent to Carpenter 20 (Ni-Cr alloy) used as acidproof metal	H _b 156max.			16.7
	CAP-42	Equivalent to Carpenter 42 (Ni alloy) used as retainer material but with corrosion resistance of SUS410 level	H _b 148max.			5.7
	INC718	Equivalent to Inconel 718 (Ni-Cr alloy) used as bellows material with excellent elasticity and heat and corrosion resistance	H _b 340min.			12.1
	INC625	Equivalent to Inconel 625 applicable for high temperature and corrosive condition having good spring property and often used as bellows material	H _b 245max.			12.1
Sliding materials	CARBON A	Carbon graphite subjected to special conditioning	H _s 80min.	- 270 ~ 500	- 200 ~ 400	5
	CARBON B	Resin impregnated carbon graphite	H _s 65min.	- 150 ~ 220	- 100 ~ 170	5
	CARBON X	Non- impregnated special carbon graphite	H _s 95min.	- 270 ~ 500	- 200 ~ 400	7
	T. CARBIDE T	Individual tungsten carbide resistant to slurries	H _{RA} 90min.		- 200 ~ 450	5
	T. CARBIDE K	Individual tungsten carbide resistant to acid, alkali, slurries	H _{RA} 92min.		- 100 ~ 350	5
	CERAMIC S	Individual acid-resistant ceramic (Al ₂ O ₃)	H _{RA} 92min.		- 10 ~ 170	7
	S. CARBIDE Y	Superior in heat shock resistance and good self-lubrication property by carbon contained	H _s 80min.		- 100 ~ 400	3.2
	S. CARBIDE V	Solid Silicon Carbide having corrosion resistance, alkali resistance and slurry resistance	H _s 105min.		- 100 ~ 400	4
	CM	Corrosion-resistant ceramic (Cr ₂ O ₃) coating	Durometer 120min.		- 10 ~ 170	9
	PTFE-FFB	PTFE filled with glass fiber and graphite	Durometer 65min.	- 110 ~ 300	- 10 ~ 100	100
Packing materials	PTFE-FF	Tetrafluoroethylene resin (Rareflon) with excellent chemical resistance	Durometer 60min.	- 100 ~ 300	- 60 ~ 250	140
	NBR	NBR (NOK code A305) with excellent resistance to oil and wear	H _s 73	- 40 ~ 120	- 20 ~ 100	
	FKM	Fluoric rubber (NOK code F422) with excellent resistance to heat, solvents, acid	H _s 68	- 20 ~ 200	- 20 ~ 200	
	EPDM	Ethylene propylene rubber (NOK code E617) applicable for hot water and vegetable oil	H _s 70	- 45 ~ 130	- 35 ~ 130	
	FFKM	Kalrez with excellent resistance to heat, chemicals	H _s 75	- 10 ~ 260	0 ~ 250	
	ET-RING	Teflon encapsulated silicon O-ring with excellent resistance to chemicals, solvents			- 60 ~ 260	
	GRAFOIL	Square shaped mold packing with excellent heat resistance high temperature bellows seal use			240 ~ 450	

T_o—denotes heat-resistant limit of material.

T—denotes operating temperature limit to mechanical seal.

—denotes coefficient of thermal expansion of material. Temperature range as reference is 0 ~ 400 °C for mechanical seal.