GUIDANCE TO THE MECHANICAL SEAL APPLICATION WITH THE MOST COMMON LIQUIDS

IP2005-1920-5129

Liquid	Seal	1	2	3	4
Fumes damp	XYXYKRY	●			
	XYXYQRY	●			
Acetones	X7X7RZ7		●		B
Water with presence of sand	X7337				
"	X73R7				
"	XX7RR7				
"	X7X7RR7				
Water with marble powder	X7X7KR7				
	X7X7QR7				
Demineralized water	XYXYRZY	●	●		I
Distilled water	XYXYRZY	●	●		I
Clean seawater	X7X72V7		●		B
Seawater with presence of sand	X7337		●		B
"	X73R7		●		B
"	XX7RR7		●		B
"	X7X7RR7		●		B
Clean water up to 120 °C	X7H72V7				
Clean water up to 140 °C	X7X72Z7				
Swimming pool water	XYXY2VY	●	●		B
Brackish water	X7X72V7		●		B
Basic thermal water	X7X72Z7		●	●	G
Thermal water with presence of mud	X7X7RZ7		●	●	G
Acid thermal water	XYXYRZY		●		B-I
Alkali	X7X72Z7		●		G
Alcohols	X7X72Z7				
Lime	X7X7KR7		●	●	G
	X7X7QR7		●	●	G
Calcium hydrate <10%	X7X72Z7		●	●	G
Ketones	X7X7RZ7				
Detergents with foaming-agents	X7X7RZ7		●		
Hydrocarbons and derivatives (140 °C max)	XYXY2ZY	●			
Clean hydrocarbons	XYHY2VY	●			
Milk of lime	X7X72Z7		●	●	G
Powdered milk	XYXYKRY	●	●		B
"	XYXYQRY	●	●		B
Washing machines with heavy liquids	XYXYKRY	●			
"	XYXYQRY	●			
Washing machines for car bodles (with solvents)	XX5XZ5				
Cooling mixtures from 0 °C to -10 °C	X7X72Z7				
Cooling mixtures from -10 °C to -30 °C	X7X7RZ7				B
Oil up to 140 °C	XYHY2VY	●			
Oil up to 200 °C	EYXYRRY	●			
Oil up to 200 °C	EYXYKKY	●			
Oil up to 200 °C (in continuos)	EIXIKRI	●			
Oil up to 200 °C (in continuos)	EIXIQRI	●			
Ligth diesel oil	XYXY2ZY	●			
Saturated brines	X7X7KR7		●		B
"	X7X7QR7		●		B
Degreasing	XYXY2ZY	●	●	●	
Caustic soda	X7X72Z7		●	●	G
Caustic soda >10%	X7X7KR7		●	●	G
"	X7X7QR7		●	●	G
Nitre solvents	XX5XZ5				
Nitre solvents (painting booths)	XX5335 S.F.				
Aromatic solvents (painting booths)	XY33Y S.F.				
"	XY3RY				
"	XXYRRY				
Solvents from dirty hydrocarbons	XYXYRZY	●			
Basic abrasive substances	X7X7KR7		●		G
"	X7X7QR7		●		G
Trichlorethylene	XYXYRZY	●			
Varnish for wood	XX5335 S.F.				
Wine (filtering) with fossil meal	X7X7KR7		●		B
"	X7X7QR7		●		B

MECHANICAL SEAL (ROTEN E UNITEN) MATERIAL CODE

Code	Material
6	*NBR rubber (nitrile) for neutral environments*
7	*EPDM rubber (Ethylene Propylene) for basic environments*
Y	*FPM rubber (Fluoro Carbon) for acid environments*
5	*PTFE TEFLON resin*
4	*PTFE TEFLON charged teflon resin*
V	*normal carbon*
Z	*special carbon*
G	*Cr stainless steel AISI 431*
H	*Cr-Ni stainless steel AISI 304*
X	*Cr-Ni-Mo stainless steel AISI 316*
3	*brazed Wt. Carbides on S.S.*
R	*solid corrosion resistant carbides (WIDIA-TUNGSTEN CARBIDE)*
9	*ceramic steatite HF*
2	*ceramic alumina*
E	*spring steel for oil hotter than 100 °C*
J	*stellite hardfacing on S.S.*
L	*HASTELLOY (nichel alloy)*
K	*solid SILICON CARBIDE SIC*
Q	*solid SILICON CARBIDE SIC special*
I	*special mixture (Fluoro Carbon) for oil hot*

** = Must be ensured in the zone of the mechanical seal a pressure > of the vapor pressure at that temperature*

1) FPM casing gasket (Fluoro Carbon)
2) st. steel AISI 316 shaft
3) Cast iron impeller (excluding copper and its alloys)
4) Recommended materials for the pumps: ***B = Bronze, I = st. steel AISI 316 G = Cast iron***