

Description: Seal Selection and Material Recommendation by Media

1. AIM AND APPLICATION FIELD

The following table lists the more common fluids (media) and suitable seal materials respectively. In selecting the seal the operating limits and constructional information for the relevant design should be taken into account.

For technical or other economic reasons, other type of mechanical seals with different materials from the ones indicated in these tables, can be supplied (contact BT-Burgmann S.p.A.).

2. TABLE OF MATERIALS

The symbology of the seal materials used in these tables follows the European Norm EN 12756:2000.

SLIDING FACES (position I / II)

Synthetic Carbon

A	Carbon, Metal impregnated
B	Carbon, Resin impregnated
B3	Carbon graphite (Full Carbon)

Plastic Materials

Y	PTFE Glass fibre reinforced
---	-----------------------------

Carbides

U	Tungsten Carbide (brazing insert)
U1	Tungsten Carbide (integral)
Q1	Silicon Carbide sintered

Metal Oxides

V	Aluminium Oxide
X	Steatite

Metal Materials

E	Cr Steel (AISI 420)
F	Cr-Ni Steel (AISI 304)
F1	Cr-Ni Steel (AISI 431)
G	Cr-Ni-Mo Steel (AISI 316)

SECONDARY SEAL COMPONENTS (position III)

Elastomers

P	Nitrile Rubber (NBR)
N	Chloroprene Rubber (CR)
E	Ethylene Propylene Rubber (EPDM)
S	Silicone Rubber (MVQ)
V	Fluorocarbon Rubber (FKM)

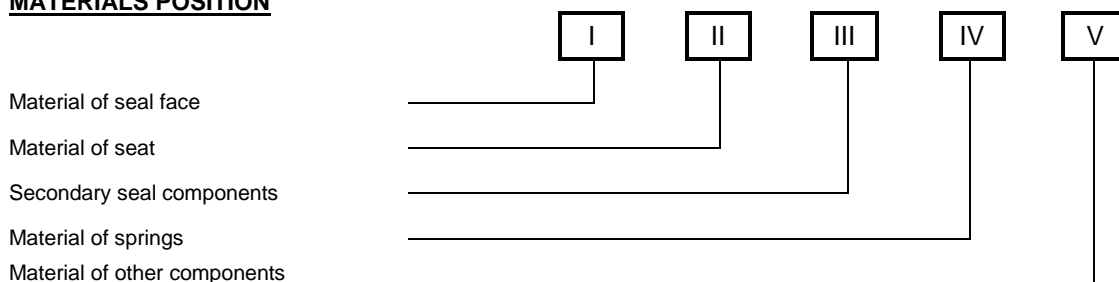
Non - Elastomers

T	PTFE (Polytetrafluoroethylene)
---	--------------------------------

SPRING AND OTHER COMPONENTS (position IV / V)

F	Cr-Ni Steel (AISI 304)
F1	Cr-Ni Steel (AISI 431)
G	Cr-Ni-Mo Steel (AISI 316)
M	Hastelloy B
M1	Hastelloy C
M2	Monel

MATERIALS POSITION



Description: Seal Selection and Material Recommendation by Media

3. COMPATIBILITY FLUID/SEAL MATERIALS

Type of Fluid (Media)	Materials					Note	
	I	II	III	IV	V	▲	●
A							
Acetaldehyde	B	V	T	G	G	5	D
Acetic Acid	B	V	T	G	G	5	
Acetic Acid < 30%	B	V	E	G	G	1	
Acetic Anhydride	B	V	T	G	G	5	
Acetic Ether	B	V	T	G	G	5	
Acetone	F ₁	B	E	G	F ₁	2	
Acetyl Chloride	V	B ₃	V	G	G	1	
Acetyl Salicylic Acid	B	V	E	G	G	1	
Acetylene	V	B	E	G	G	1	D
Adipic Acid	V	B	V	G	G	2	
Aluminium Acetate	U	U	E	G	F	3	
Aluminium Chloride	V	B	V	G	G	1	
Aluminium Fluoride	V	B	E	G	G	1	
Aluminium Nitrate	V	B	P	G	G	1	
Aluminium Sulphate	V	B	V	G	G	1	
Ammonia Anhydrous	V	B	E	G	F	1	
Ammonia Gaseous	V	B	E	G	G	1	D
Ammonium Acetate < 10%	V	B	E	G	G	1	
Ammonium Alum	V	B	V	G	G	3	
Ammonium Bicarbonate < 10%	V	B	E	G	G	1	
Ammonium Bromide < 10%	V	B	V	G	G	1	
Ammonium Carbonate	V	B	E	G	G	1	D
Ammonium Chloride	V	B	E	G	G	1	D
Ammonium Hydroxide	F ₁	B	E	G	F ₁	2	D
Ammonium Nitrate	V	B ₃	E	G	G	1	
Ammonium Persulfate < 20%	Q ₁	Q ₁	V	G	G	1	
Ammonium Phosphate < 15%	V	B	E	G	G	1	
Ammonium Sulphite	V	B	E	G	G	1	
Ammonium Sulphate < 10%	V	B	E	G	G	1	
Amyl Acetate	V	B	E	G	G	1	
Amyl Alcohol	F ₁	B	E	G	F ₁	2	
Amyl Benzoate	F ₁	B	E	G	F ₁	2	
Amyl Butyrate	F ₁	B	E	G	F ₁	2	
Amyl Chloride	G	B	V	G	G	2	
Amyl Formiate	F ₁	B	E	G	F ₁	2	
Amyl Nitrate	F ₁	B	E	G	F ₁	2	
Amyl Propionate	F ₁	B	E	G	F ₁	2	
Aniline	G	B	T	G	G	4	
Anthracene	U	U	V	G	G	1	
Arsenic Acid	V	B	V	G	G	1	D
Ascorbic Acid	V	B	E	G	G	1	
B							
Barium Chloride	V	B ₃	E	M ₂	M ₂	1	D
Barium Hydroxide	V	B	P	G	G	1	
Barium Nitrate	Q ₁	Q ₁	V	G	G	1	
Barium Sulphate	V	B	E	G	G	1	
Barium Sulphide	V	B	E	G	G	1	
Beer	X	B	V	G	F	1	
Benzene	F ₁	B	V	G	F ₁	2	
Benzoic Acid	V	B	V	G	G	1	
Borax Solution	V	B	P	G	G	1	
Boric Acid	V	B	V	G	G	1	
Brine	V	B	E	G	G	1	
Bromine Methane	F ₁	B	V	G	F ₁	2	D
Butadiene	V	B	E	G	G	1	D
Butane	F ₁	B	V	G	F ₁	2	
Butter	X	B	P	G	F	1	
Butyl Alcohol (Butanol)	X	B	E	G	F	1	
Butyl Amine	B	V	T	G	G	5	
Butyl Benzoate	F ₁	B	E	G	F ₁	2	
Butyl Butyrate	F ₁	B	E	G	F ₁	2	
Butyl Cellosolve	Y	V	T	G	G	5	
Butyl Formiate	F ₁	B	E	G	F ₁	2	
Butyl Lactate	F ₁	B	E	G	F ₁	2	
Butyl Methanol	V	B	E	G	G	1	

Description: Seal Selection and Material Recommendation by Media

Type of Fluid (Media)	Materials					Note	
	I	II	III	IV	V	▲	●
Butyl Phosphate	F ₁	B	E	G	F ₁	2	
Butyl Phthalate	F ₁	B	E	G	F ₁	2	
Butyl Propionate	F ₁	B	E	G	F ₁	2	
Butylene	F ₁	B	V	G	F ₁	2	
Butyric Acid	V	B	T	G	G	5	
C							
Calcium Acetate	V	B	E	G	G	1	
Calcium Bisulphate < 10%	X	B	V	G	F	1	
Calcium Carbonate	Q ₁	Q ₁	V	G	G	1	
Calcium Chloride	V	B ₃	V	G	G	1	
Calcium Hydroxide > 10%	U	U	P	G	G	1	*
Calcium Hypochlorite 10%	Q ₁	Q ₁	V	G	G	1	
Calcium Nitrate	B	F ₁	P	G	G	1	
Calcium Phosphate	B	V	V	G	G	1	
Calcium Sulphide	V	B	P	G	G	1	
Camphor	U	U	T	G	G	5	
Carbolic Acid	V	B ₃	V	G	G	2	
Carbon Dioxide (Gas)	V	B	P	G	G	1	D
Carbon Dioxide (Liquid)	U	B ₃	P	G	G	1	
Carbon Monoxide	G	B	P	G	G	2	D
Carbon Sulphide	G	B	T	G	G	4	D
Carbon Tetrachloride	V	B	V	G	G	1	
Carbonic Acid	V	B ₃	E	G	G	1	
Cellosolve (Ethyleneglycolmonoethylether)	Y	V	T	G	G	5	
Cellulose Acetate	V	B	T	G	G	5	D
Cheese	U	U	V	G	F	3	D
Chloride Solvent	V	B	T	G	G	5	
Chlorine Benzene	Q ₁	B ₃	V	G	G	2	
Chlorine Dry	G	Q ₁	V	G	G	*	D
Chlorine Ethane	F ₁	B	V	G	F ₁	2	
Chlorine Ethene	B	V	T	G	G	5	
Chlorine Methane	G	B	V	G	G	2	
Chlorine Wet	Y	V	V	M ₁	M ₁	*	
Chloroform	U	B	V	G	F	2	
Chrome Alum	V	B	V	G	G	1	
Chromic Acid	Q ₁	Q ₁	V	G	G	1	D
Citric Acid	V	B ₃	E	G	G	1	
Cocoa Butter	V	B	V	G	G	1	
Coffee	X	B	P	G	F	1	
Copper Chloride	U	U	V	G	G	*	
Copper Cyanide	V	B ₃	P	G	G	1	D
Copper Sulphate	V	B	P	G	G	1	
Cyclohexane	G	B	P	G	G	2	
D							
Decalin	F ₁	B	V	G	F ₁	2	
Diacetone Alcohol	G	B	E	G	G	2	
Dibutyl Phthalate	G	B	E	G	G	2	
Dichloro Acetic Acid	Y	B	T	M ₁	M ₁	5	
Dichloro Benzene	G	B	V	G	G	2	
Dichloro Ethane	G	B	T	G	G	4	
Dichloro Ethene	G	B	V	G	G	2	
Dichloro Methane	G	B	V	G	G	2	
Diesel Fuel	V	B	V	G	G	1	
Diethanolamine	G	B	T	G	G	4	
Diethyl Amine	G	B	T	G	G	4	
Diethyl Carbonate	G	B	E	G	G	1	
Diethyl Phthalate	G	B	T	G	G	4	
Diethylene Glycol	G	B	E	G	G	2	
Dimethyl Formamide	B	V	E	G	G	5	
Dimethyl Phthalate	G	B	V	G	G	2	
Dimethyl Sulphoxide	G	B	V	G	G	2	
Dinitro Chlorobenzene	G	B	T	G	G	4	
Diocetyl Phthalate	G	B	T	G	G	4	
E							
Enamel	U	U	P	G	F	3	D
Epichlorhydrin	V	B	T	M ₂	M ₂	5	D
Ethanol	X	B	E	G	F	1	
Ethanolamine	G	B ₃	T	G	G	4	
Ether (Petroleum)	F ₁	B	T	G	F ₁	2	

Description: Seal Selection and Material Recommendation by Media

Type of Fluid (Media)	Materials					Note	
	I	II	III	IV	V	▲	●
Ethyl Acetate	V	B	T	G	G	5	
Ethyl Alcohol	X	B	E	G	F	1	
Ethyl Benzoate	G	B	V	G	G	2	
Ethyl Butyrate	G	B	E	G	G	2	
Ethyl Chloride	V	B ₃	V	G	G	1	
Ethyl Formiate	F ₁	B	T	G	F ₁	2	
Ethyl Phthalate	F ₁	B	T	G	F ₁	2	
Ethyl Propionate	F ₁	B	T	G	F ₁	2	
Ethyl Sulphate	F ₁	B	T	G	F ₁	2	
Ethylamine	G	B ₃	T	G	G	5	
Ethylene	A	U ₁	V	G	F	1	
Ethylene Chloride	V	B ₃	T	G	G	5	
Ethylene Dichloride	V	B ₃	T	G	G	5	
Ethylene Glycol	F ₁	B	E	G	F	1	
Ethylene Oxide	V	B	T	G	G	5	D
F							
Fatty Acids	V	B	V	G	G	1	
Ferric Chloride	Y	V	P	G	G	*	
Ferric Sulphate < 20%	B ₃	V	P	G	G	1	
Ferrous Sulphate < 20%	Q ₁	Q ₁	P	G	G	1	
Food Products	V	B	P	G	G	*	
Formaldehyde	V	B	T	G	G	5	D
Formic Acid	B	V	E	G	G	6	E
Freon 011	U	B ₃	T	G	F	4	
Freon 012	X	B	N	G	F	1	
Freon 013	X	B	N	G	F	1	
Freon 014	X	B	N	G	F	1	
Freon 021	U	B ₃	T	G	F	4	
Freon 022	F ₁	B	N	G	F ₁	2	
Freon 031	F ₁	B	N	G	F ₁	2	
Freon 032	F ₁	B	N	G	F ₁	2	
Freon 112	F ₁	B	V	G	F ₁	2	
Freon 113	X	B	N	G	F	1	
Freon 114	X	B	N	G	F	1	
Freon 115	X	B	N	G	F	1	
Freon TF	X	B	P	G	F	1	
Fruit Juices	V	B	P	G	G	1	
Fumaric Acid	V	B	V	G	G	1	
Furfural	G	B ₃	T	G	G	5	
Furfurilic Acid	U	U	T	G	G	5	
G							
Gallic Acid	V	B	V	G	G	1	
Gas from Blast Furnace	G	A	V	G	G	2	D
Gasoline	V	B	V	G	G	1	
Gelatine	U	U	P	G	F	3	
Glucose	F ₁	B	P	G	F ₁	2	
Glycerine	V	B	P	G	F	1	
Glycol	X	B	P	G	F	1	
Grease	U	U	P	G	F	3	
H							
Helium	V	B	E	G	G	1	D
Heptane	G	B	V	G	G	2	
Hexane	G	B	V	G	G	2	
Hexanone	G	B	T	G	G	4	
Hydrazine	V	B	E	G	G	1	
Hydrobromic Acid	Y	V	E	G	G	6	E
Hydrocarbons	V	B	V	G	G	1	
Hydrochloric Acid	V	B ₃	E	G	G	*	
Hydrocyanic Acid	V	B	E	G	G	1	
Hydrofluoric Acid 40%	Q ₁	Q ₁	V	G	G	*	D
Hydrogen (Gas)	F ₁	B	P	G	F ₁	2	D
Hydrogen Peroxide	Y	V	V	G	G	1	
Hydrogen Sulphide	Y	V	E	G	G	1	D
I							
Ice cream	V	B	P	G	G	1	
Ink	V	B	V	G	G	1	
Iodine Tincture	Y	V	V	G	G	1	
Iso Butane	G	B	P	G	G	2	
Iso Butylene	F ₁	B	V	G	F ₁	1	

Description: Seal Selection and Material Recommendation by Media

Type of Fluid (Media)	Materials					Note	
	I	II	III	IV	V	▲	●
Iso Propyl Acetate	G	B	E	G	G	4	
Iso Propyl Alcohol	F ₁	B	E	G	F ₁	4	
Iso Propyl Benzene	G	B	V	G	G	2	
K							
Kerosene	F ₁	B	V	G	F ₁	2	
L							
Lactic Acid	G	B	V	G	G	2	
Lard	U	U	P	G	F	3	
Lead Nitrate	V	B	P	G	G	1	
Lead Tetraethyl	F ₁	B ₃	V	G	F ₁	2	
Lime Slurry	Q ₁	Q ₁	P	G	G	*	
Lubrificants (Animal)	F ₁	A	P	G	F ₁	2	
Lubrificants (Mineral)	F ₁	A	P	G	F ₁	2	
Lubrificants (Vegetable)	F ₁	A	P	G	F ₁	2	
Lysoform	G	B	T	G	G	4	
M							
Magnesium Chloride > 5%	V	B	E	M ₁	M ₁	6	
Magnesium Hydroxide < 10%	Q ₁	Q ₁	E	G	G	1	
Magnesium Sulphate	V	B	E	G	G	1	
Maionese	U	U	P	G	F	3	
Maleic Acid	V	B	V	G	G	1	
Maleic Anhydride	U	B	T	G	G	5	
Malic Acid	V	B	E	G	G	1	
Malonic Acid	G	B	V	G	G	1	
Manganese Chloride	G	B	V	G	G	2	
Manganese Nitrate	V	B	E	G	G	1	
Manganese Sulphate	G	B	V	G	G	2	
Mercaptans	V	B	T	G	G	5	D
Mercuric Chloride	V	B ₃	E	G	G	1	D
Mercuric Nitrate	V	B	V	G	G	1	
Mesityl oxide	G	B	T	G	G	4	
Methan (Gas)	U	B	T	G	F	4	D
Methanol (Carbinol)	G	B	E	G	G	2	
Methyl Acetate	G	B	T	G	G	4	
Methyl Acrylate	G	B	T	G	G	4	
Methyl Amine	G	B	T	G	G	4	
Methyl Benzoate	G	B	V	G	G	2	
Methyl Bromide	V	B	V	G	G	1	
Methyl Butirrate	G	B	T	G	G	4	
Methyl Butyl Ketone (Hexanone)	G	B	T	G	G	4	
Methyl Chloride	G	B ₃	V	G	G	2	D
Methyl Ethyl Ketone	G	B	E	G	G	2	
Methyl Formiate	G	B	T	G	G	4	
Methyl Isobutyl Ketone	G	B	T	G	G	4	
Methyl Metacrylate	G	B	T	G	G	4	
Methyl Propionate	G	B	T	G	G	4	
Methylene Chloride	G	B ₃	T	G	G	4	
Milk 100C°	V	B	E	G	G	1	
Molasses	U	U	P	G	F	3	
N							
Naphtha	F ₁	A	V	G	F ₁	2	
Naphthalene	F ₁	A	V	G	F ₁	2	
Nickel Chloride	V	B	P	G	G	1	
Nickel Sulphate	V	B	P	G	G	1	
Nitric Acid < 20%	V	B	V	G	G	1	
Nitric Acid > 20%	Q ₁	Q ₁	V	G	G	5	
Nitro Solvent	V	B ₃	T	G	G	5	
Nitrobenzene	G	B	T	G	G	4	
Nitrocellulose	U	U	T	G	F	4	
Nitrogen (Gas)	V	B	E	G	G	1	D
Nitroglycerine	F ₁	B	E	G	F ₁	2	
Nonyl Phenol	G	B	V	G	G	2	
O							
Octyl Alcohol	F ₁	B	E	G	F ₁	2	
Octyl Phenol	G	B	T	G	G	4	
Oil (Castor)	V	B	P	G	G	1	
Oil (Coconut)	V	B	P	G	G	1	
Oil (Cod-Liver)	V	B	P	G	G	1	
Oil (Corn)	V	B	P	G	G	1	

Description: Seal Selection and Material Recommendation by Media

Type of Fluid (Media)	Materials					Note	
	I	II	III	IV	V	▲	●
Oil (Crude)	U	U	V	G	G	3	
Oil (Cutting)	F ₁	A	P	G	F ₁	2	
Oil (Diathermic)	F ₁	A	V	G	F ₁	2	
Oil (Domestic fuel)	G	B	P	G	F ₁	1	
Oil (Emulsifier)	F ₁	A	P	G	F ₁	2	
Oil (Essential)	G	B	E	G	G	2	
Oil (Hydraulic)	F ₁	A	P	G	F ₁	2	
Oil (Linseed)	V	B	P	G	G	1	
Oil (Lubricating)	F ₁	A	P	G	F ₁	2	
Oil (Mineral)	F ₁	A	P	G	F ₁	2	
Oil (Olive)	V	B	P	G	G	1	
Oil (Paraffin Base)	V	B	V	G	G	1	
Oil (Peanut)	V	B	P	G	G	1	
Oil (Petrol)	F ₁	A	P	G	F ₁	2	
Oil (Silicone)	F ₁	A	E	G	F ₁	2	
Oil (Soyabean)	V	B	P	G	G	1	
Oil (Transformer)	F ₁	A	P	G	F ₁	2	
Oil (Vegetable)	F ₁	A	P	G	F ₁	2	
Oil and Ammonia	F ₁	B	N	G	F ₁	2	
Oleic Acid	V	B	T	G	G	5	
Oleum (Sulphuric Acid pure)	Y	V	V	M	M	6	
Oxalic Acid	V	B	E	G	G	1	
Oxone	Y	V	V	G	G	1	D
Oxygen	Y	V	V	G	G	*	D
P							
Palmitic Acid	V	B	V	G	G	1	
Paraffin	F ₁	B	V	G	F ₁	2	
Paste (Food)	U	U	P	G	G	*	
Pectin (Liquid)	B	V	P	G	G	1	
Pentane	F ₁	B	V	G	F ₁	2	
Perchloroethylene	V	B	V	G	G	1	
Phenol	G	B	V	G	G	2	
Phenyl Acetic Acid	V	B ₃	V	G	G	2	
Phenyl Chloride	G	B ₃	V	G	G	2	
Phosphoric Acid < 10%	V	B	E	G	G	1	
Phosphoric Acid Concentrated	V	Y	V	M	M	6	
Phthalic Acid	V	B	V	G	G	5	D
Phthalic Anhydride	V	B	V	G	G	5	
Picric Acid	V	B	V	G	G	1	
Polyvinyl Acetate (PVA)	U	U	E	G	G	3	
Polyvinyl Chloride (PVC)	U	U	E	G	G	3	
Potassium Acetate	V	B	E	G	G	1	
Potassium Alum	V	B	V	G	G	1	
Potassium Bicarbonate	V	B	P	G	G	1	
Potassium Bromide	V	B	V	G	G	1	
Potassium Carbonate	V	B	E	G	G	1	
Potassium Chlorate	V	B ₃	T	G	G	5	
Potassium Chloride	V	B ₃	E	M ₂	M ₂	6	
Potassium Cyanide	V	B	P	G	G	1	
Potassium Hydroxide	Q ₁	Q ₁	E	G	G	1	
Potassium Nitrate	U	U	P	G	G	3	
Potassium Permanganate	V	B	E	G	G	1	
Potassium Phosphate	V	B	V	G	G	1	
Potassium Silicate	V	B	E	G	G	1	
Potassium Suphate	V	B	V	G	G	1	
Propane	F ₁	B	E	G	F ₁	2	
Propanone (Propanol)	F ₁	B	E	G	F ₁	2	
Propellant	G	B	T	G	G	4	
Propiolic Alcohol	V	B	V	G	F	1	
Propionic Acid	B	V	T	G	G	5	
Propyl Acetate	Y	V	T	G	G	5	
Propyl Benzene	G	B	V	G	G	2	
Propyl Benzoate	F ₁	B	E	G	F ₁	2	
Propyl Butyrate	F ₁	B	E	G	F ₁	2	
Propyl Formiate	F ₁	B	E	G	F ₁	2	
Propyl Phthalate	F ₁	B	E	G	F ₁	2	
Propyl Propionate	F ₁	B	E	G	F ₁	2	
Propylene	U	B	V	G	G	1	D
Propylene Glycol	F ₁	B	V	G	F ₁	2	

Description: Seal Selection and Material Recommendation by Media

Type of Fluid (Media)	Materials					Note	
	I	II	III	IV	V	▲	●
Propylene Oxide	B	V	T	G	G	5	D
Pyridine	G	B	T	G	G	4	
Pyrogallic Acid	V	B	V	G	G	1	
R							
Resin (Alkyd)	U	U	V	G	G	3	D
Resin (Melamine)	U	U	T	G	G	5	D
Resin (Phenolic)	U	U	V	G	G	3	D
Resin (Urea)	U	U	T	G	G	5	D
S							
Salicylic Acid	V	B	E	G	G	1	
Silicon Fluid	G	B	E	G	F	1	
Silver Nitrate < 5%	Y	V	E	G	G	1	
Slurry	U	U	P	G	F	3	
Smog	V	B	V	G	G	1	D
Soap (solution)	X	B	P	G	F	1	
Sodium Acetate > 10%	V	B	E	G	G	1	D
Sodium Bicarbonate	V	B	P	G	G	1	
Sodium Bichromate	Y	B	T	G	G	5	
Sodium Bisulphate < 20%	V	B	P	G	G	1	
Sodium Bisulphite (Hydrosulphite)	V	B	P	G	G	1	
Sodium Borate	U	U	E	G	G	3	
Sodium Carbonate	V	B	P	G	G	1	
Sodium Chloride	V	B ₃	E	G	G	1	
Sodium Citrate	U	U	E	G	G	3	
Sodium Cyanide	V	B	P	G	G	1	
Sodium Hydroxide	Q ₁	Q ₁	E	G	F	1	
Sodium Hypochlorite	Y	V	V	M ₁	M ₁	*	
Sodium Nitrate	V	B	E	G	G	1	
Sodium Nitrite	V	B	E	G	G	1	
Sodium Phosphate	V	B	P	G	G	1	
Sodium Silicate	U	U	P	G	G	3	
Sodium Sulphate	V	B	P	G	G	1	
Sodium Sulphide < 2%	V	B	P	G	G	1	
Sodium Sulphite	V	B	P	G	G	1	
Sodium Thiocyanate	V	B	E	G	G	1	D
Sodium Thiosulphate	V	B	E	G	G	1	
Spirits	G	B	E	G	G	2	
Starch	U	U	E	G	F		*
Stearic Acid	V	B	V	G	G	5	
Stearine	U	U	P	G	F	3	
Stoddard Solvent	G	B	V	G	G	2	
Styrene	U	U	T	G	G	5	
Succinic Acid	V	B	E	G	G	1	
Sugar (Cane)	U	U	P	G	G	1	D
Sugar < 10%	U	U	P	G	G	3	
Sugar > 10%	U	U	P	G	G	*	D
Sugar Juice	V	B	P	G	G	1	
Sulphuric Acid	Q ₁	V	V	G	G	6	D
Sulphuric Acid < 10%	V	B	V	G	G	1	
Sulphuric Acid Concentrated	Q ₁	Q ₁	V	M	M	1	*
Sulphurous Acid	Q ₁	Q ₁	V	G	G	6	E
T							
Tallow	G	B	V	G	F	1	
Tannic Acid	V	B	P	G	G	1	
Tannin	V	B	P	G	G	1	
Tartaric Acid	V	B	P	G	G	1	
Tetrachloroethane	V	B	V	G	G	1	
Tetrachloroethylene	V	B	V	G	G	1	
Tetrahydrofuran	V	B	T	G	G	5	
Toluene	V	B ₃	V	G	G	1	
Tomato Juice	U	U	P	G	G	3	
Toothpaste	U	U	P	G	F	*	
Trichloro Acetic Acid < 50%	V	B	T	G	G	4	*
Trielina	V	B	V	G	G	1	
Triethanolamine (TEA)	G	B ₃	T	G	G	4	
Triethylamine	G	B ₃	T	G	G	1	
Turpentine	G	B	V	G	F	1	
U							
Urea	Q ₁	Q ₁	E	G	G	5	D

Description: Seal Selection and Material Recommendation by Media

Type of Fluid (Media)	Materials					Note	
	I	II	III	IV	V	▲	●
V							
Varnish	U	U	V	G	G	3	D
Varnish (Nitro)	U	U	T	G	G	5	D
Vinegar	F ₁	B	E	G	F ₁	2	
Vinyl Acetate	G	B	T	G	G	4	
Vinyl Chloride	U	U	T	G	G	5	D
Vinyl Cyanide	U	U	T	G	G	5	D
Viscose	U	U	T	G	G	5	D
W							
Water	X	B	P	G	F	1	
Water (Deionized)	X	B	P	G	G	2	
Water (DeminerIALIZED)	X	B	P	G	G	1	
Water (Detergent)	X	B	P	G	F	1	
Water (Distilled)	X	B	P	G	F	1	
Water (Drinkable)	X	B	P	G	F	1	
Water (Filthy)	U	U	P	G	F	3	
Water (Heavy)	G	B	P	G	G	2	
Water (Mine-Acidic)	Q ₁	Q ₁	E	G	G	1	
Water (Muddy)	U	U	P	G	F	3	
Water (Sand)	U	U	P	G	F	3	
Water (Sea)	V	B	P	G	G	1	
Water (Soapy)	X	B	P	G	F	1	
Water (with soluble Oil)	F ₁	A	P	G	F ₁	2	
Water < 140°C	Q ₁	A	E	G	F	1	
Water < 70°C	V	B	P	G	F	1	
Wax	F ₁	B	V	G	F ₁	2	
Whisky	X	B	P	G	F	1	
Wine	X	B	P	G	F	1	
Wine (Must)	U	U	P	G	F	3	
X							
Xylene (Xylol)	V	B	V	G	G	1	
Z							
Zinc Chloride	V	B ₃	V	G	G	1	
Zinc Cyanide	V	B	P	G	G	1	D
Zinc Nitrate	V	B	P	G	G	1	
Zinc Sulphate 2%	V	B	P	G	G	1	D

Label (note)

Seal group	
▲	1 AR/PN/PNL/PNT/FN/FH/C5/A2
	2 RN
	3 AR3/RN3/C53
	4 RN6
	5 FH6/C56
	6 C5E
●	D Back to back double seal assembly (with barrier fluid compatible with the product at a pressure of 1,5 to 2 bar above the pressure of the pressure to be sealed).
	E Outside balanced seal
	* Consult a BT Technical Office