Resistance table

BUSCHJOST Solenoid Valves

Which materials for which fluids?

The resistance table supports you in your search for suitable materials and compiles information on the chemical resistance of sealing and enclosure materials for gaseous and liquid media. **The table is subject to updating.

Contents of the resistance table

- The suitability of the materials is confirmed by a simple "+".
- For some media, only the minimum requirement is confirmed with a "+". This means that higher quality materials can also be used.
- Ask if you are unsure, even if a medium is not listed.
- Operating conditions cannot be derived from the table.
- There is no such thing as an unconditional application. Therefore, also consider operational dependencies such as pressure, temperature, viscosity, concentration, degree of contamination. These can have a negative effect on the longevity of the valve.
- The table does not claim to be complete.
- No warranty claims can be derived from the information given.
- We reserve the right to change the information given at any time without notice.

Technical hotline Germany +49 5731 18660 99

			Material Sealing																					
Media	Density (kg/m³)	Gaseous	EPDM -30°C 140°C	EPDM/EPDM -30°C 140°C	EPDM/PTFE -30°C 120°C	FFKM -15°C 200°C	FKM -11°C 140°C	FKM/FKM -10°C 120°C	Metall -40°C 300°C	Metall/HP -40°C 80°C	Metall/Wills® -20°C 400°C	NBR -10°C 80°C	NBR/NBR -10°C 80°C	PCTFE -200°C 80°C	PEEK-HT (Wills®) -40°C 250°C	Peek/PCTFE -40°C 80°C	PEEK/PCTFE-HP -196°C 140°C	PEEK/UHMW-PE	POM -10°C 90°C	PTFE -196°C 230°C	PTFE/FKM -10°C 150°C	PTFE/NBR -20°C 80°C	PTFE/Peek -10°C 80°C	Silikon/PTFE -40°C 230°C
potassium hydroxide KOH, 20%, aqueous 20°C	1000		+																	+				
potassium hydroxide KOH, 50%, aqueous 60°C	1000																			+				
2-methylpentan, isohexane, liquid																				+	+			
Acetic acid, 50% CH3COOH	1005																			+				
Acetone CH3COCH3	791		+														+			+	+			
Acetylene C2H2	1.17	ja	+														+			+				
Adblue	1087						+													+				
Additives for Fuels							+													+	+			
Air	1.2	ja	+	+	+		+					+					+		+	+	+	+		+
Ammoniac NH3	0.77	ja	+		+												+			+				
Antifrogen N	1140																			+				
Argon Ar	1.78	ja			+		+					+					+			+		+		
Argon, liquified cryogenic -186°C														+						+				
Bilge Water (water-oil mix)	1000		+				+					+								+	+			
Biodiesel, Rapsmethylester (RME)	885						+													+				
biogas (wet, max. 3% H2S)		ja					+													+				
Biogas <= 0,5% H2S		ja					+					+					+			+	+			
Brake Fluid	1100		+	+																+				

	Material Housing																
Media	AISI 304 - 1.4301 -196°C 250°C	AISI 316 -196°C 300°C	AISI 316 Ti -196°C 300°C	AISI 316 Ti - 1.4571(81) -20°C 160°C	AISI 316L - 1.4404 -196°C 80°C	AISI 316L - 1.4435 -40°C 250°C	AISI 318LN - 1.4462 -40°C 250°C	AISI S165M - 1.4418 -40°C 80°C	aluminium AL anodised -20°C 180°C	CC499K red brass -40°C 200°C	CW617N brass -196°C 300°C	EN-GJL250 grey cast PN16 -10°C 300°C	EN-GP240GH cast steel PN40 -20°C 300°C	EN-JS1025 ductile iron -10°C 300°C	P250GH+N - C22.8 PN160 -10°C 300°C	PTFE Polyetrafluoroethylene	PVC | Polyvinyl chloride
potassium hydroxide KOH, 20%, aqueous 20°C		+	+														
potassium hydroxide KOH, 50%, aqueous 60°C		+	+														
2-methylpentan, isohexane, liquid	+	+	+								+						
Acetic acid, 50% CH3COOH			+													+	
Acetone CH3COCH3	+		+				+			+	+	+	+				
Acetylene C2H2	+		+				+				+	+	+				
Adblue	+	+	+														
Additives for Fuels	+	+	+								+						
Air	+	+	+				+		+	+	+	+	+	+	+		+
Ammoniac NH3	+	+	+										+				
Antifrogen N											+						
Argon Ar	+		+				+			+	+		+				
Argon, liquified cryogenic -186°C	+		+		+						+						
Bilge Water (water-oil mix)			+								+	+	+				
Biodiesel, Rapsmethylester (RME)	+	+	+														
biogas (wet, max. 3% H2S)		+															
Biogas <= 0,5% H2S	+	+	+				+					+		+			
Brake Fluid		+	+							+	+		+				

			Material Sealing																							Material Housing																							
Media	Density (kg/m³)	Gaseous	EPDM -30°C 140°C	EPDM/EPDM -30°C 140°C	EPDM/PTFE -30°C 120°C	FFKM -15°C 200°C	FKM -11°C 140°C	FKM/FKM -10°C 120°C	Metall -60°C 300°C	Metall/HP -40°C 80°C	Metall/Wills® -20°C 400°C	NBR -10°C 80°C	NBR/NBR -10°C 80°C	PCTFE -200°C 80°C	PEEK/HT (Wills®) -40°C 250°C	Peek/PCTFE -40°C 80°C	PEEK/PCTFE-HP -196°C 140°C	PEEK/UHMW-PE -10°C 90°C	POM -10°C 90°C	PTFE -196°C 230°C	PTFE/FKM -10°C 150°C	PTFE/NBR -20°C 80°C	PTFE/Peek -10°C 80°C	Silikon/PTFE -40°C 230°C	AISI 304 - 1.4301 -196°C 250°C	AISI 316 -196°C 300°C	AISI 316 Ti -196°C 300°C	AISI 316 Ti - 1.4571(81) -20°C 160°C	AISI 316L - 1.4404 -196°C 80°C	AISI 316L - 1.4435 -40°C 250°C	AISI 318LN - 1.4462 -40°C 250°C	AISI S165M - 1.4418 -40°C 80°C	aluminium AL anodised -20°C 180°C	CC499K red brass -40°C 200°C	CW617N brass -196°C 300°C	EN-GJL250 grey cast PN16 -10°C 300°C	EN-GP240GH cast steel PN40 -20°C 300°C	EN-JS1025 ductile iron -10°C 300°C	P250GH+N - C22.8 PN160 -10°C 300°C	PTFE Polyetrafluoroethylene	PVC	Polyvinyl chloride
Butadien C4H6	2.4	ja																		+					+	+																				
Calibration gas, test gas, dry	0.72	ja					+										+			+	+				+				+																
chlorine gas, dry Cl2																				+	+						+																			
CNG - Compressed Natural Gas	0.7	ja								+		+		+			+			+					+		+		+		+				+									
CO carbon monoxide	1.25	ja			+		+					+					+			+	+				+		+				+				+	+	+	+						
CO2 carbon dioxide gas	1.98	ja			+		+			+		+					+			+	+	+			+		+		+		+				+	+	+	+						
Coke oven gas	0.6	ja					+																			+	+										+								
Condensate			+				+													+					+		+									+	+	+	+	+					
Condensate 200°C																				+	+					+	+									+	+	+	+	+					
Cool Emulsion, Cooling Water	1000		+				+	+				+					+			+	+				+	+	+								+	+	+	+						
Dimethylether DME	2	ja																		+	+				+	+	+																		
Dipropylenglycolmethylether DPM																				+	+				+		+																		
dirty Fluids							+						+								+				+		+									+	+								
Eisen-(II)-Chlorid (Ferrochlorid) FeCl3 - Lösung	1000		+																																										+
Ethane C2H6	1.36	ja					+					+					+			+					+		+			+				+	+									
Ethanol	789		+		+												+			+	+				+	+	+								+	+	+	+						
Ethylacetat CH3 CO2 CH2 CH3	894																			+	+					+	+								+	+	+	+						
Ethylene C2H4	1.26	ja					+					+								+		+			+										+	+								
Ethylene glycol C2H6O2 50%	1000		+																							+																		
flour, powder, dust, soot			+				+					+																		+			+										
Flue Gas SOX, SO2, N2, O2, CO		ja													+		+			+						+	+												+					
Formic Acid HCOOH 50% 20°C	1000																			+						+	+																	
Forming Gas		ja					+					+								+	+	+					+											+	+	+					
Fuel Oil	920						+										+			+	+				+		+								+	+	+	+						
gaseous, liquid, aggressive		ja													+					+						+	+												+					

			Material Sealing																								Material Housing																			
Media	Density (kg/m³)	Gaseous	EPDM -30°C 140°C	EPDM/EPDM -30°C 140°C	EPDM/PTFE -30°C 120°C	FFKM -15°C 200°C	FKM -11°C 140°C	FKM/FKM -10°C 120°C	Metall -60°C 300°C	Metall/HP -40°C 80°C	Metall/Wills® -20°C 400°C	NBR -10°C 80°C	NBR/NBR -10°C 80°C	PCTFE -200°C 80°C	PEEK/HIT (Wills®) -40°C 250°C	Peek/PCTFE -40°C 80°C	PEEK/PCTFE-HP -196°C 140°C	PEEK/UHMW-PE	POM -10°C 90°C	PTFE -196°C 230°C	PTFE/FKM -10°C 150°C	PTFE/NBR -20°C 80°C	PTFE/Peek -10°C 80°C	Silikon/PTFE -40°C 230°C	AISI 304 -196°C 250°C 1.4301	AISI 316 -196°C 300°C	AISI 316 Ti -196°C 300°C	AISI 316 Ti -1.4571(81) -20°C 160°C	AISI 316L -196°C 80°C 1.4404	AISI 316L -40°C 250°C 1.4435	AISI 318LN -40°C 250°C 1.4462	AISI 5165M -40°C 80°C 1.4418	aluminium AL anodised -20°C 180°C	CC499K red brass -40°C 200°C	CW617N brass -196°C 300°C	EN-GJL250 grey cast PN16 -10°C 300°C	EN-GP240GH cast steel PN40 -20°C 300°C	EN-JS1025 ductile iron -10°C 300°C	P250GH+N - C22.8 PN160 -10°C 300°C	PTFE Polytetrafluoroethylene	PVC	Polyvinyl chloride
Gases flammable		ja					+					+					+			+					+		+				+			+	+	+	+					
Gasoline, Dieseloil, Fuels	800						+													+	+					+	+							+	+	+	+	+			
Glycerine aqueous, H2O with C3H8O3	1260						+														+				+																
granules, sand, gravel, chalk			+				+					+																	+			+								
Grinding oil with dirt and abrasion particles							+														+				+																
HCL Hydrogen chloride gas	1.64	ja					+													+	+						+														
Helium Gas He	0.18	ja			+		+			+		+					+			+					+	+	+		+		+				+						
heptane (hexan, petrol)	684						+					+								+	+				+	+	+								+						
high viscous Fluids up to 1000 mm²/s							+														+				+		+								+						
Hot Air ≤ 180°C	1.2	ja																		+	+			+		+	+						+	+	+	+	+	+			
hot Gases 230°C	1	ja													+					+							+								+			+			
Hydraulic Oil	800						+					+					+			+		+			+		+							+	+	+	+				
Hydrogen H2	0.09	ja			+		+			+					+	+	+			+	+				+	+	+		+			+			+		+		+	
Hydrogen Peroxide 0,5% H2O2, +20°C	1000						+													+						+	+													
Hydrogen Sulfide, gas, dry, H2S	1.6	ja	+				+													+	+				+	+	+												+	
Isobutane C4H10	2.51	ja					+													+	+				+		+														
isoprene C5H8	681																			+	+				+	+	+														
Isopropanol CH3 CH(OH)CH3	786						+													+	+				+	+	+								+	+					
JP-8 jet fuel aviation, kerosine	800						+										+			+	+				+	+	+									+		+			
Liqud Nitrogen -196°C LN2														+						+					+		+		+						+						
Liquid Carbon Dioxide LCO2							+							+						+	+				+		+		+						+						
LNG liquified natural gas -162°C	1590													+						+							+		+						+						
LPG liquified petrol gas propane, butane	600						+													+	+				+	+	+								+	+		+	+	+		
Lubricant, gear oil CLP460	900						+														+														+						
Marine Gas Oil (MGO)	860						+										+			+	+				+		+								+	+	+	+			

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Media	Density (kg/m³)	Gaseous	EPDM -30°C 140°C	EPDM/EPDM -30°C 140°C	EPDM/PTFE -30°C 120°C	FFKM -15°C 200°C	FKM -11°C 140°C	FKM/FKM -10°C 120°C	Metall -60°C 300°C	Metall/HP -40°C 80°C	Metall/Wills® -20°C 400°C	NBR -10°C 80°C	NBR/NBR -10°C 80°C	PCTFE -200°C 80°C	PEEK/HT (Wills®) -40°C 250°C	Peek/PCTFE -40°C 80°C	PEEK/PCTFE-HP -196°C 140°C	PEEK/UHMW-PE	POM -10°C 90°C	PTFE -196°C 230°C	PTFE/FKM -10°C 150°C	PTFE/NBR -20°C 80°C	PTFE/Peek -10°C 80°C	Silikon/PTFE -40°C 230°C	AISI 304 - 1.4301 -196°C 250°C	AISI 316 -196°C 300°C	AISI 316 Ti -196°C 300°C	AISI 316 Ti - 1.4571(81) -20°C 160°C	AISI 316L - 1.4404 -196°C 80°C	AISI 316L - 1.4435 -40°C 250°C	AISI 318LN - 1.4462 -40°C 250°C	AISI 5165M - 1.4418 -40°C 80°C	aluminium AL anodised -20°C 180°C	CC499K red brass -40°C 200°C	CW617N brass -196°C 300°C	EN-GJL250 grey cast PN16 -10°C 300°C	EN-GP240GH cast steel PN40 -20°C 300°C	EN-JS1025 ductile iron -10°C 300°C	P250GH+N - C22.8 PN160 -10°C 300°C	PTFE Polytetrafluoroethylene	PVC	Polyvinyl chloride
Mercaptane		ja				+											+			+	+				+	+				+														
Methane CH4	0.72	ja			+		+					+			+		+			+		+			+	+				+			+	+	+	+	+					
Methanol Alcohole CH3OH	793		+		+												+			+					+	+																	
Methylethylketon, MEK	805																			+							+																
Mineral Oil	800						+					+					+			+					+	+	+								+	+	+	+					
Motor Oil	800						+					+					+			+	+				+	+	+								+	+	+	+					
natural Gas CH4	0.7	ja			+		+			+		+		+	+		+			+	+	+			+	+	+		+		+			+	+	+	+	+	+			
neongas NE	0.84	ja					+					+																							+								
Nitric acid aqueous 40%, HNO3	1100						+														+	+					+	+													+		
Nitrogen dioxide NO2	2.053																				+					+	+	+															
Nitrogen Gas N2	1.25	ja	+		+		+			+		+					+		+	+	+	+			+	+	+		+		+		+	+	+	+	+					
Nitrogen oxides, nitrous gases NOx		ja															+			+					+	+	+															
Nitrous Oxide N2O	2	ja					+			+							+			+	+				+		+		+		+				+		+					
Odorant		ja				+											+			+					+		+				+											
Oxygen Liquid, -183°C LOX	1140																			+							+		+													
Oxygen O2	1.43	ja			+		+										+			+	+				+	+	+				+			+	+	+	+	+				
paint, ink - highly viscous			+				+					+									+								+			+										
Phenol, Carbolic Acid - diluted with water						+														+						+	+														
Propane/Butane gaseous C3H8	2	ja					+					+					+			+	+				+	+	+				+			+	+	+	+	+				
Propionic acid C3H6O2	990						+													+	+				+	+	+															
propylene glycol C3H8O2							+					+								+														+	+	+						
Propylene Glycol Methyl Ether	920																			+							+															
Propylene, Propene - C3H6	1.915	ja					+													+					+	+	+								+	+						
Rape Oil							+													+							+								+	+	+	+				
refrigerant R290, R600a																				+	+				+	+	+								+	+						

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Media	Density (kg/m³)	Gaseous	EPDM -30°C 140°C	EPDM/EPDM -30°C 140°C	EPDM/PTFE -30°C 120°C	FFKM -15°C 200°C	FKM -11°C 140°C	FKM/FKM -10°C 120°C	Metall -40°C 300°C	Metall/HP -40°C 80°C	Metall/Wills® -20°C 400°C	NBR -10°C 80°C	NBR/NBR -10°C 80°C	PCTFE -200°C 80°C	PEEK/HT (Wills®) -40°C 250°C	PeeV/PCTFE -40°C 80°C	PEEK/PCTFE-HP -196°C 140°C	PEEK/UHMW-PE	POM -10°C 90°C	PTFE -196°C 230°C	PTFE/FKM -10°C 150°C	PTFE/NBR -20°C 80°C	PTFE/Peek -10°C 80°C	Silikon/PTFE -40°C 230°C	AISI 304 - 1.4301 -196°C 250°C	AISI 316 -196°C 300°C	AISI 316 Ti -196°C 300°C	AISI 316 Ti - 1.4571(81) -20°C 160°C	AISI 316L - 1.4404 -196°C 80°C	AISI 316L - 1.4435 -40°C 250°C	AISI 318LN - 1.4462 -40°C 250°C	AISI 5165M - 1.4418 -40°C 80°C	aluminium AL anodised -20°C 180°C	CC499K red brass -40°C 200°C	CW617N brass -196°C 300°C	EN-GJL250 grey cast PN16 -10°C 300°C	EN-GP240GH cast steel PN40 -20°C 300°C	EN-JS1025 ductile iron -10°C 300°C	P250GH+N - C22.8 PN160 -10°C 300°C	PTFE Polyetrafluoroethylene	PVC	Polyvinyl chloride
Refrigerant R407C	2.51	ja					+													+	+				+	+	+						+	+										
Resins							+													+	+				+	+	+																	
sea water	1000																																													
sewage gas, proportionally H2S, NH3	0.77	ja	+																	+							+											+						
silan gas	1.34	ja					+													+	+				+	+	+											+						
slurry of chalk							+																		+											+								
Sodium hydroxide (sodium hydroxide), NaOH, 30%, +20°C			+																	+						+	+																
sodium hypochlorite NaOCl (Chlorine bleach) max. 12%, +20°C																				+							+																
Sodium nitrite - aqueous NaNO2	1290						+					+								+					+	+	+																	
Sodium Phosphate NA3PO4							+										+			+	+				+	+	+				+												
sodium silicate (waterglass)	1000						+					+								+	+				+	+	+																	
Sole (cooling sole) up to 40%			+									+															+																	
Steam ≤ 140°C	0.6		+																	+					+	+	+						+	+	+	+	+						
Steam ≤ 200°C																				+	+					+	+						+	+		+							
Steam ≤ 230°C															+											+	+							+		+							
Steam ≤ 250°C									+		+				+											+	+							+		+							
Steam ≤ 300°C									+		+															+	+							+		+							
Steam ≤180°C	0.6	ja																		+	+					+	+						+	+	+	+	+						
Sulfur Dioxide Gaseous, dry SO2	2.93	ja																		+	+				+	+	+									+							
Sulfur Dioxide Gaseous, wet, SO2	2.93	ja																		+							+																
Sulfur Dioxide Liquid SO2																				+	+				+	+	+																
Sulfuric acid H2SO4 max. 10%, 20°C	1.6	ja					+																				+																
Synthetic air (21% O_2 content)	1.2	ja					+													+					+		+										+	+	+					
Tetraflourmethane CF4, gas	1.69	ja																		+	+				+		+																
Thermal-Oil >180°C	880																			+	+					+	+							+	+	+	+	+					

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Thermal-Oil ≤ 200°C	880																			+							+								+		+				
Thermal-Oil ≤ 230°C	1000														+											+	+								+		+				
Thermal-Oil ≤ 250°C	1000								+		+				+											+	+								+		+				
Thermal-Oil ≤ 300°C	1000										+																+								+		+				
Toluol C6H5CH3	867																			+	+				+		+								+						
Triglycole, Triethylenglycole C6H14O4	1100						+													+						+	+														
Urea	1300						+													+						+	+														
Vacuum	1.2	ja	+	+			+	+				+	+													+	+							+	+	+	+				
Vacuum + Pressure		ja	+	+				+				+	+							+						+	+							+	+	+	+				
vapour aggressive (natural gas + steam)	0.9	ja				+														+						+	+										+				
Water demineralised, Osmose	1000		+				+													+	+				+	+	+								+						
Water H2O with Glycole	1000		+				+	+				+					+			+	+				+	+	+							+	+	+	+	+	+		
Water, H2O	1000		+		+		+	+				+	+				+			+	+	+	+		+	+	+	+						+	+	+	+	+	+		
Water, Hot above 90°C H2O	1000		+				+	+												+	+				+		+							+	+	+	+	+			