Butterfly Valve Seat Material Properties

Property		EPDM	NEOPRENE	VITON	SILICONE
Temperature		-55°–275°F	-40°–225°F	-20°–400°F	-80°–450°F
Resistance to	Acid	Good–Excellent	Good	Good	Good
	Alkali	Good–Excellent	Fair–Good	Poor–Good	Poor–Good
	Petroleum Oil	Poor	Excellent	Excellent	Good
	Vegetable Oil	Good	Good	Excellent	Good
	Abrasion	Good–Excellent	Good	Good	Good–Excellent
Compression Set		Fair	Good	Good–Excellent	Good–Excellent

Seat Material	General Application	Temperature Range	Environments Not Recommended
 NITRILE BUNA-N (NBR)	Hydrocarbons with less than 40% of aromatics, natural gas, air, H_2O, sea water, brine, alcohols, glycols (food grade available)	14°F to 176°F -10°C to 80°C	solvents, benzene, xylene
 EPDM	H_2O, steam, air, brine, abrasives, phosphates, esters, ketones, alkali, food compounds, liquids and solids, diluted inorganic acids, caustic soda (food grade available)	-4°F to 250°F -20°C to 120°C	hydrocarbons, oils, fats, dry air
 HIGH TEMP EPDM		-4°F to 300°F -20°C to 148°C	
 Hypalon (CSM)	Oxidizing acids, chromic acid, hydrofluoric acid, sulphur based acids, sodium hypoclonte, ozone	0°F to 212°F -18°C to 100°C	steam, ketones, hot air, nitric acid
 Silicone	Beverages, food	-22°F to 300°F -30°C to 150°C	hydrocarbons, solvents, steam
 Fluoroelastomer (FKM) (VITON® or Fluorel®)	Hydrocarbons with high concentration of aromatics, mineral and halogenated acids, phosphoric acid, aliphatic and aromatic ethers	0°F to 400°F -18°C to 205°C	steam, ketones, amines, esters, alkali
 Neoprene (CR)	Oils, diluted mineral acids, alkali, fats	-4°F to 212°F -20°C to 100°C	ketones, concentrated acids, solvents for paint
 Natural Rubber	Abrasive products	-40°F to 176°F -40°C to 80°C	steam, hydrocarbons, oils
 PTFE/EPDM	Corrosive products, solvents	-4°F to 250°F -20°C to 120°C	abrasive products, fluorine gases, alkaline metals