



Valve Seat Material Selection Guide

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SEAT CODE	MATERIAL	DESCRIPTION	APPLICABLE TEMP. RANGE	COLOR	SERVICE APPLICATION	SUGGESTED PRESSURE UNDER NORMAL TEMP.
PTFE	Virgin Polytetrafluoroethylene	Virgin PTFE is the most common sealing material and is suitable for almost all media as it has excellent chemical resistance.	-45°C~160°C (-49°F~320°F)	White	General Chemical	70 bar 1000 psi
RTFE	15% Glass Filled Reinforced PTFE	15% Glass Filled Reinforced PTFE chemical resistance is compatible to PTFE and improved cycle life and greater pressure temperature rating	-45°C~180°C (-49°F~356°F)	Off-White	For low and medium pressure service for steam service up to 150 psig	140 bar 2000 psi
TFM1600	Modified PTFE (PFA & PTFE)	Second Generation PTFE, offers better creep. Lower coefficient of friction provides lower torque values and resist deformation. This is excellent application	-57°C~180°C (-70°F~356°F)	White	Ideal for application requiring higher purity such as semi-conductor	140 bar 2000 psi
CTFE MG1241	Carbon Graphite Reinforced PTFE	Carbon Graphite Reinforced PTFE an excellent seat material for steam and thermal services and having good abrasion resistance. Due to its high cycling capabilities, it is the recommended soft seat for modulating control application.	-45°C~200°C (-49°F~392°F)	Black	For high temperature and high pressure service for steam service up to 450 psig	140 bar 2000 psi
MS02 MG1431	MS02 Filled PTFE	Glass and Metal Oxide PTFE filled withstand pressure than CTFE. Good resistance under load and not recommended for foodstuff.	-45°C~180°C (-49°F~356°F)	Grey	For high temperature and high pressure service for steam service up to 450 psig	140 bar 2000 psi
PEEK	Poly Ether Keton	Poly Ether Keton a material which outstanding pressure capabilities at elevated temperature and has excellent chemical and abrasion resistance	-45°C~260°C (-49°F~500°F)	Grey	Best suited for high temperature and pressure service up to 3000 psig.	400 bar 5000 psi
DELIRIN	Dupont's Acetal Homopolymer (Delrin)	Delrin is capable of handling extremely high pressure. Must not used for oxygen service.	-40°C~80°C (-40°F~176°F)	Creamy White	Best suited for high Pressure service up to 6000 psig	425 bar 6000 psi
UHMW-PE	Ultra High Molecular Weight Polyethylene	UHMW-PE is ideal for use in low level radiation service. This seat also meets the requirements of the tobacco industry where PTFE is prohibited and it offers an excellent resistance to abrasion medium.	-30°C~80°C (-22°F~176°F)	White	Best suited for tobacco duty and abrasion resistance	350 bar 5000 psi
SS/PTFE	Stainless Powder PTFE	Stainless Powder is combines the strength of metal with the lubricity of PTFE. 50% SS316 powder combines with 50% PTFE offers abrasion resistance of metal with higher pressure and temperature rating than RTFE.	-28°C~220°C (-18°F~428°F)	Grey	Best suited for abrasion resistance and control steam application	150 bar 2130 psi

- The above technical data are not applicable for steam service, please consult the Modentic team for further information.
- All cavity filled seats cannot be used for steam service application.