



VALVE SEAT MATERIAL GUIDE

Seat Code	Material	Technical Description	Colour	Effect on Valve Torque
<b>F</b>	TFM	TFM offers all the properties of reinforced TFE with greater strength , toughness, and improved thermo-mechanical properties offering lower coefficient of friction for lower torques and less permeability, reduced cold flow deformation and enhanced deformation recovery. Temperature rating is – 45°C to +287°C	Off-White	+10% less than RPTFE
<b>R</b>	Reinforced TFE	15% Glass Reinforced TFE rated, suitable for temperatures – 46°C to +232°C , chemical resistance is compatible to virgin TFE with improved cycle life and greater pressure-temperature rating than TFE.	Off-White	Nil
<b>T</b>	Virgin TFE (PTFE)	This material is the basic seat material used in most Ball Valves. Its chemical compatibility is excellent for almost all media service applications. Temperature range – 46°C to +204°C.	White	Nil
<b>X</b>	Reinforced TFM	Glass Filled TFM-25% Glass Reinforced with 75% TFM, is good for temperatures ranging from –196°C to +300°C. This material offers a wide temperature range with better cycle life than TFM. Ideal for steam, hot gases, thermal fluids and a variety of process chemicals.	Off-White	+25%
<b>S</b>	Stainless Filled TFE	Combines the strength of metal with the lubricity of TFE. 50% 316 powder combined with 50% TFE. This offers the abrasion resistance of metal with higher pressure and temperature ratings than RPTFE. –29°C to +288°C / Steam rating 250 SWP.	Grey	+50%
<b>N</b>	Nylon	Special nylon seats are offered for higher pressure and lower temperature service. They can be used in high-pressure air, oil, and other gas media's but are not suited for strong oxidizing agents. Temperature rating –34°C to +93°C	Translucent White	+35%
<b>U</b>	UHMWP Polyethylene	Ultra-High Molecular Weight Polyethylene. Ideal for use in low-level radiation service. This seat also meets the requirements of the tobacco industry where TFE is prohibited and it offers an excellent resistance to abrasive media. Temperature range is –56°C to +93°C	Opaque White	+35%
<b>M</b>	Metal (Stellite)	Recommended for use with severe flashing of hydraulic shock, abrasive media or where possible trapped metal may exist.	Metallic	+60%
<b>P</b>	Peek	Polyetheretherketone high temperature semi rigid elastomer. Best suited for high pressure and temperature applications. Also offers very good corrosion resistance. Temperature rating is –56°C to +287°C	Brown	+50%
<b>C/F</b>	Cavity Filled	Designed to reduce the possibility of contamination by entrapment of process fluids in the void normally found behind the ball between the valve body in conventionally designed ball valves. Ideal for application where cross contamination is a concern, such as paints and dyes.	White	+50%

**\*All of the above information should be used in conjunction with the pressure-temperature rating chart for applicable valve**