



A
Bray
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Performance
Company

Flow-Tek®

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VALVE SEAT MATERIAL SELECTION GUIDE

*Choosing the Right Seat Material is the Most
Challenging Decision in Ball Valve Selection*

Seat Code	Material	Description	Color
578	Virgin TFE (PTFE)	Virgin TFE is a common seat material used in many ball valves. Its chemical compatibility is excellent for almost all applications. Temperature range -50 °F to 450 °F.	White
595	Reinforced PTFE (RPTFE)	Reinforced PTFE. The standard seat in some Flow-Tek valves. 15% glass reinforced PTFE offers good chemical resistance and improved cycle life. Service Temperature range of -50 °F to 450 °F.	Chalky White
54J	TFM	TFM 1600, the standard seat in many Flow-Tek valves, is a modified PTFE that maintains the exceptional chemical and heat resistance properties of conventional PTFE, but has a significantly lower melt viscosity. Features reduced cold flow, lower porosity and permeability, and lower void content. Offers the advantage of smoother surfaces, reduce deformation under load, and improved design flexibility. Service temperature range of -328 °F to 500 °F.	White
54I	Tek-Fil® (Carbon/Graphite Filled TFM)	Tek-Fil® is a Flow-Tek registered trademark product. The seat includes TFM resin and special carbon/graphite fillers for enhanced performance. Exceptional chemical and heat resistance properties. Superior abrasion and wear resistance with a low coefficient of friction for reduced valve torques. Service temperature range of -328 °F to 550 °F in modulating service and up to 650 °F in clean on/off service and saturated steam service up to 450 °F. Standard seat in our V-Control Ball Valves.	Black
53HH	PEEK	PolyEtherEtherKetone. A high performance engineered thermoplastic. Excellent choice for high pressure and high temperature service. Offers excellent abrasion and corrosion resistance and is unaffected by continuous exposure to hot water or steam. Service temperature range of -70 °F to 600 °F and steam service up to 500 °F.	Tan
855	UHMWPE	Ultra-High Molecular Weight Polyethylene. Ideal for use in low level radiation service. This seat also meets the requirements of the tobacco industry where PFE is prohibited and it offers an excellent resistance to abrasive medium. Temperature range -70 °F to 200 °F.	Semi-Translucent White
53G	50-50 Stainless Filled PTFE	Stainless Steel/PTFE. Combines the strength of metal with the lubricity of PTFE. 50% 316 stainless steel powder combined with 50% PTFE by weight, 15% SS by volume. Offers excellent abrasion resistance with higher pressure and temperature ratings than RPTFE. Service temperature range of -20 °F to 500 °F	Grey
C/F	Metal (Stellite)	Recommend for abrasive media and high temperature service up to 800°F. Flow-Tek's metal seats are lapped to the ball as individually matched sets, assuring line contact between valve ball and seats, resulting in smooth operation and tight shut off. Flow-Tek offers metal seats in Shut Off Classes IV, V, and VI. See Technical Bulletin 1010 for more specific details.	Metallic
C/F	Cavity Filler	Designed to reduce the possibility of contamination by entrapment of process fluids in the void normally found between the ball and the valve body in conventionally designed ball valves. Ideal for applications where cross contamination is a concern, such as paints and dyes. Cavity fillers are available in RPTFE, PTFE, Tek-Fil®, TFM and UHMWPE.	

Note: All of the above information should be used in conjunction with the pressure-temperature rating chart for applicable valve.