

Choosing The Best Film For Your Gas Sampling Bag Needs



	Properties	Advantages	Limitations
Tedlar®	<ul style="list-style-type: none"> • Low gas permeation • High tensile strength • Max. operating temp: 400 °F • Unaffected by the chemical components of gases commonly sampled 	<ul style="list-style-type: none"> • Less permeable than FEP, PFA and TFM • Bags resist puncture in the field • Less expensive than FEP, PFA, TFM film 	<ul style="list-style-type: none"> • Exhibits background levels of DMAC and phenol • High permeation rate for CO₂ • Relatively high permeation rate for O₂
ALTEF	<ul style="list-style-type: none"> • Developed specifically for gas sampling applications • Chemically inert to most acids, aliphatic and aromatic organic compounds, chlorinated solvents, and alcohols • Max. operating temp: 260 °F • Made of 0.003" thick film 	<ul style="list-style-type: none"> • Suitable for sampling most VOC's and many sulfur compounds • Low VOC background • Longer sample storage times than most other bag materials • Does not exhibit background levels of DMAC or phenol • Lower permeability than Tedlar® to CO₂, N₂, and CH₄ • Superior resistance to solvents 	<ul style="list-style-type: none"> • More permeable to most compounds than Tedlar® • Not suitable for sampling ketones and esters in high concentrations (>30%) • Less resistance to UV light than Tedlar® • Many sulfur compounds must be analyzed within 24 hours. • More expensive than Tedlar®
Multi-layer Foil	<ul style="list-style-type: none"> • Ideal for collecting low molecular weight compounds such as: CH₄, H₂S, CO, and CO₂ • Foil layers provide very low permeability and complete moisture barrier • Max. operating temp: 190 °F • Opaueness protects samples from ultraviolet light 	<ul style="list-style-type: none"> • The only bag material that adequately holds H₂S for long periods • Ideal for collecting low molecular weight compounds • Sample stability up to 5 days for most compounds • Very low permeability to O₂ and CO₂ • Good VOC stability • Less expensive than Tedlar® and ALTEF 	<ul style="list-style-type: none"> • Not recommended for collecting low ppm to high ppb VOC's due to background levels from bag materials • Recommend analyzing within 48 hours after collection for CH₄, H₂S, CO, and CO₂
FEP	<ul style="list-style-type: none"> • One of the most chemically inert materials available for making gas sampling bags • Max operating temperature: 400 °F • Virtually transparent 	<ul style="list-style-type: none"> • Works well in extreme temperatures from -400 °F to 400 °F • Heavier gauge film is resistant to most severe corrosives as well as tolerates applications involving rough handling or difficult service conditions • Less expensive than PFA 	<ul style="list-style-type: none"> • Poor long term storage stability for most VOC's and sulfur compounds • Much more permeable and more expensive than Tedlar®, ALTEF, and Multi-Layer Foil bags • Lower tensile strength than Tedlar®
PFA	<ul style="list-style-type: none"> • Highest purity, most chemically inert film available for making gas sampling bags • Wide temp range -420 °F to 500 °F 	<ul style="list-style-type: none"> • Not affected by the most corrosive chemicals, such as HF, Nitric, HCL and Sulfuric Acids • Temps from -400 °F to 500 °F 	<ul style="list-style-type: none"> • Poor long term storage stability for most VOC's and sulfur compounds • The most expensive film option for gas sampling bags • Much more permeable than Tedlar®
TFM	<ul style="list-style-type: none"> • High purity, flexible, low permeation versus FEP and PFA • Translucent • Wide temperature range; from -328 °F to 500 °F 	<ul style="list-style-type: none"> • Not affected by the most corrosive chemicals, such as HF, Nitric, HCL and Sulfuric Acids • Sample stability for 4 to 5 days for most compounds • Withstands temperatures from -400 °F to 500 °F 	<ul style="list-style-type: none"> • Expensive • Tears easily • Low tensile strength • More permeable than Tedlar®, ALTEF, and Multi-Layer foil bags

Valves And Fittings For Gas Sampling Bags



Polypropylene Screw Cap Combo Valve with Replaceable Septum



Polypropylene Locking Combo Valve with Septum



Nickel Plated HR Barbed On/Off Valve



Plastic Jaco Plating for Tubing or Septum



Swagelok Type Stainless Steel Fitting for Tubing or Septum



Stainless Steel Push/Pull Valve



Stainless Steel TCLP Fitting with Replaceable Septum



PFA Fitting Tubing or Septum



PTFE On/Off Valve with Stopcock

Valves and Fittings	Features
Polypropylene Screw Cap Combo Valve With Replaceable Septum	<ul style="list-style-type: none"> • On/Off valve function with replaceable septum in a single unit • Made of Inert polypropylene • Quick turning screw cap to open and close valve • Visual confirmation that valve is open or closed
Polypropylene Locking® Combo Valve With Septum	<ul style="list-style-type: none"> • On/Off valve function with septum in a single unit • Made of Inert polypropylene • Push/Pull (On/Off) valve stem • Quick Locking function, in closed position Fluoropolymer faced septum, with Ultra-low bleed silicone
Stainless Steel TCLP Fitting With Replaceable Septum	<ul style="list-style-type: none"> • Stainless steel body construction with aluminum cap • Designed for use with Zero Headspace Extractors • Replaceable fluoropolymer faced septum
Swagelok® Type Stainless Steel Fitting For Tubing Or Septum	<ul style="list-style-type: none"> • Stainless steel construction • Option of cap for tubing or septum • Replaceable fluoropolymer faced septum with large area
Nickel Plated Halkey® Roberts Barbed On/Off Valve	<ul style="list-style-type: none"> • Barbed stem for attaching tubing • Leak resistant seal in closed position
Plastic Jaco® Fitting For Tubing Or Septum	<ul style="list-style-type: none"> • Compression ferrule secures tubing onto fitting • Polypropylene molded construction • Option of cap for tubing, or cap with septum • Replaceable fluoropolymer faced septum with large area
PFA Fitting For Tubing Or Septum	<ul style="list-style-type: none"> • PFA fluoropolymer construction • Option of cap for tubing, or cap with septum • Compression ferrule secures tubing onto fitting • Replaceable fluoropolymer faced septum with large area