



Choosing the best film for your gas sampling needs

Film	Unique Properties	Advantages	Limitations
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: 302°F • ALTEF bags are made of .003" thick film vs. competitor's bags of .002" thick 	<ul style="list-style-type: none"> • Economical • Readily available • Suitable for sampling VOC's and sulfur compounds • Low VOC background • Longer sample storage times than most other bag materials • Does not exhibit background levels of DMAC or phenol, as Tedlar® does 	<ul style="list-style-type: none"> • More permeable than Tedlar® (.003" thickness is recommended versus .002" for Tedlar®) • Not suitable for sampling ketones and esters in high concentrations (>30%) • Lower resistance to UV light than Tedlar®
Multi-Layer Foil	<ul style="list-style-type: none"> • Multiple layers provide low permeability and a moisture barrier • Opaqueness protects samples from ultraviolet light 	<ul style="list-style-type: none"> • The only bag material that adequately holds H₂S for long periods (>5 to 7 days) • Ideal for collecting low molecular weight compounds • Sample stability for up to 5 days for most compounds • Good VOC stability • Readily available 	<ul style="list-style-type: none"> • Not suitable for collecting low ppm to high ppb VOC's
Tedlar®	<ul style="list-style-type: none"> • Low gas permeation levels • High tensile strength • Withstands temperatures up to 400°F • Unaffected by the chemical components of gases commonly sampled, like carbon monoxide, sulfur dioxide, hydrogen sulfide, radon and mercaptans 	<ul style="list-style-type: none"> • Less permeable than FEP, PFA and TFM • Bags resist puncture in the field • Less expensive than FEP and PFA film • Recommended in many EPA testing methods 	<ul style="list-style-type: none"> • Exhibits background levels of DMAC and phenol • Not readily available • Substantial recent price increases due to global shortage
FEP	<ul style="list-style-type: none"> • One of the most chemically inert materials available for making gas sampling bags 	<ul style="list-style-type: none"> • Works well in extreme temperatures ranging from -400°F to 400°F; allowing it to be used in all stack sampling conditions • Heavier gauge (.005") film is resistant to most severe corrosives as well as tolerates applications involving rough handling or difficult service conditions • Less expensive than PFA • Readily available 	<ul style="list-style-type: none"> • Poor storage stability for most VOC's and sulfur compounds • More permeable than Tedlar®, ALTEF, and Multi-Layer Foil bags • More expensive than Tedlar®, ALTEF, Multi-Layer Foil bags
PFA	<ul style="list-style-type: none"> • Highest purity, most chemically inert film available for making gas sampling bags • Widest temperature range; from -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 • Readily available 	<ul style="list-style-type: none"> • The most expensive film option for gas sampling bags • Much more permeable than Tedlar®