

CHROMATOGRAPHIC SPECIALTIES INC.

www.chromspec.com

CHROMSPEC™

Choosing the best film for your gas sampling needs

Film	Unique Properties	Advantages	Limitations
ALTEF	• 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	• 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	• 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	• Multiple layers provide low permeability and a moisture barrier • Opaqueness protects samples from ultraviolet light	• The only bag material that adequately holds H_2S 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	• Not suitable for collecting low ppm to high ppb VOC's
Tedlar®	• Low gas permeation levels • High tensile strength • Continuous temperature range from –98°F to 225°F • Unaffected by the chemical components of gases commonly sampled, like carbon monoxide, sulfur dioxide, hydrogen sulfide, radon and mercaptons	• 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	• Exhibits background levels of DMAC and phenol • Not readily available • Substantial recent price increases due to global shortage
FEP	• One of the most chemically inert materials available for making gas sampling bags	• 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	• 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	• Highest purity, most chemically inert film available for making gas sampling bags • Widest temperature range; from –420°F to 500°F	• Not affected by the most corrosive chemicals, such as HF, Nitric, HCL and Sulfuric Acids • Readily available	• The most expensive film option for gas sampling bags • Much more permeable than Tedlar®

Tedlar® is a registered trademark of E.I DuPont

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For more information, please contact Chromatographic Specialties Inc.'s Technical Support Team at 1-800-267-8103 or email tech@chromspec.com.