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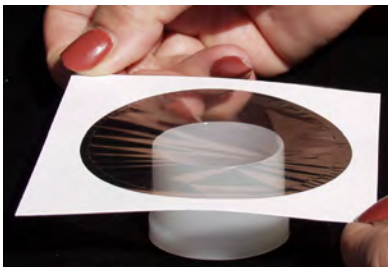
## SpectroMembrane<sup>®</sup> XRF Thin-Film Sample Support Window Carrier Frames



SpectroMembrane<sup>®</sup> Thin-Film Sample Support Carrier Frames consist of a thin-film sample support substance attached to a frame that serves as a carrier. In affixing a thin-film substance to an XRF Sample Cup, the thin-film material is not directly handled and a contamination possibility is completely eliminated. Nearing or at the completion of attachment, the thin-film automatically detaches from the carrier frame leaving a taut wrinkle-free sample support window.

# NO

**WASTE  
STATIC CLING  
CONTAMINATION  
EXPERIENCE NECESSARY**



**Step 1.**  
Place SpectroMembrane<sup>®</sup> Carrier Frame Over XRF Sample Cup

**Step 2.**  
Press Snap-On Ring or Sleeve over SpectroMembrane<sup>®</sup> Carrier Frame and tear away Carrier Frame



**SpectroMembrane<sup>®</sup> Thin-Film Carrier Frames are packaged 100 units per package to match the same packaging as 100 XRF Sample Cup Sets per package. When ordering packages of XRF Sample Cups, simply order the same number of SpectroMembrane<sup>®</sup> Thin-Film Carrier Frame packages.**

## SpectroMembrane<sup>®</sup> XRF Thin-Film Sample Support Window Carrier Frames

### SPECIFICATIONS AND ORDERING INFORMATION

CAT. NO.	THIN-FILM SUBSTANCE	GAUGE (Thickness)	CIRCLE DIAMETER	SUGGESTED CHEMPLEX XRF SAMPLE CUP CATALOG USE	
3011	Mylar <sup>®</sup>	2.5 µm; 0.00010"; 0.10 mil; 0.00254 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3012		2.5 µm; 0.00010"; 0.10 mil; 0.00254 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3013		3.6 µm; 0.00014"; 0.14 mil; 0.00356 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3014		3.6 µm; 0.00014"; 0.14 mil; 0.00356 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3015		6.0 µm; 0.00024"; 0.24 mil; 0.00610 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3016		6.0 µm; 0.00024"; 0.24 mil; 0.00610 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3017		Prolene <sup>®</sup>	4.0 µm; 0.00016"; 0.16 mil; 0.00406 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series
3017A			3.0 µm; 0.00012"; 0.12mil; 0.00305 mm		
3018			4.0 µm; 0.00016"; 0.16 mil; 0.00406 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145,2146, 2195
3018A			3.0 µm; 0.00012"; 0.12mil; 0.00305 mm		
3019	Polypropylene	6.0 µm; 0.00024"; 0.24 mil; 0.00610 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3020		6.0 µm; 0.00024"; 0.24 mil; 0.00610 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146, 2195	
3021-5	Polyimide (Kapton <sup>®</sup> ) (Resistant to Aliphatic and Aromatic Hydrocarbons)	7.5 µm; 0.00030"; 0.30 mil; 0.00762 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3022-5		7.5 µm; 0.00030"; 0.30 mil; 0.00762 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3023	Polypropylene	12.0 µm; 0.00050"; 0.50 mil; 0.0127 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3024		12.0 µm; 0.00050"; 0.50 mil; 0.0127 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3025	Etnom <sup>®</sup>  (Resistant to Aliphatic and Aromatic Hydrocarbons)	3.0 µm; 0.00012"; 0.12mil; 0.00305 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3026		3.0 µm; 0.00012"; 0.12mil; 0.00305 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3029		2.5µm; 0.00010; 0.10mil; 0.00254 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3030		2.5 µm; 0.00010"; 0.10mil; 0.00254 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3031		2.0 µm; 0.00008"; 0.08mil; 0.00203 mm	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	
3032		2.0 µm; 0.00008"; 0.08mil; 0.00203 mm	3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440,1440L,1540, 1740, 1840, 1850, 1940, 2135, 2140, 2143, 2145, 2146,2195	
3080		Zythene™	6.0µm; 0.00024"	2.5" (63.5mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2131, 2132 and 3100
3081				3.0" (76.2mm)	1070,1075,1080,1085,1095,1340,1440, 1440L, 1540,1740, 1840, 1850, 1940, 2135, 2140, 2143, 2144, 2145, 2146, 2149, 2195
3090	Ultra-Polyester <sup>®</sup>	1.5 µm; 0.00006"; 0.06mil; 0.00152 mm	3.0" (76.2mm)	1060, 1065, 1330,1430, 1530, 1730, 1830, 1930, 2132 and 3100 Series	

Reg. US Patent No: 6,009,766 and other patents in applications. © Prolene, Etnom, SpectroMembrane, Ultra-Polyester and Chemplex are registered trademarks of Chemplex Industries, Inc., © Mylar and Kapton are registered trademarks of E.I. DuPont de Nemours, Inc. **IMPORTANT:** Some window materials may not be suitable for analyzing sulfur in diesel fuel, gasoline and other petroleum products containing aromatic hydrocarbons. ASTM D-6445-99 (Reapproved 2004) e1: "Samples of high aromatic content may dissolve polyester and polycarbonate films. In these cases, other materials besides these films may be used for X-ray windows, provided that they do not contain any elemental impurities. An optional window material is polyimide film. While polyimide film absorbs sulfur x-rays more than other films, it may be a preferred window material as it is much more resistant to chemical attack by aromatics and exhibits higher mechanical strength." ASTM D 4294-08a: "Any film that resists attack by the sample, is free of sulfur, and is sufficiently X-ray transparent can be used. Film types can include polyester, polypropylene, polycarbonate, and polyimide. **However, samples of high aromatic content can dissolve polypropylene, polycarbonate and polyester.**"

**SpectroCertified<sup>®</sup> XRF Thin-Film Windows**  
Continuous Rolls, Pre-Perforated Rolls and Precut Circles



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use by simply detaching a 3" section from the bulk roll at the perforations.

Thin-Film Sample Support Windows are available in Continuous Rolls, Pre-Perforated Rolls and Pre-Cut Circles interleaved with lint-free tissue carriers, in addition to SpectroMembrane<sup>®</sup> Thin-Film Carrier Frames. Fabrication and storage of all thin-films is performed under environmentally controlled conditions and immediately individually shrink-wrapped in clear plastic to preserve the original integrity. These extra precautionary measures are necessary to avoid the potential possibility of inadvertently introducing trace levels of contaminants that may affect x-ray data.

**Pre-Perforated Thin-Film Rolls**

XRF analysts interested in adding convenience to their usage of continuous thin-film window rolls and reducing waste, consider using Pre-Perforated Thin-Film Rolls. Simply detach three square inch sections from the bulk roll at the perforations as required. One 300' long x 3" wide roll serves to prepare 1200 thin-film windows without waste. Available with all thin-film roll catalog numbers ending in "PP."

**SPECIFICATIONS AND ORDERING INFORMATION**

**CONTINUOUS ROLLS:**

(3" wide x 300' long; 7.6cm x 91.4 m)

CATALOG NUMBER	THIN-FILM SUBSTANCE	GAUGE
090	Ultra-Polyester <sup>®</sup>	1.5 µ; 0.00006"; 0.06mil; 0.00152mm
095	Etnom <sup>®</sup>	1.5 µ; 0.00006"; 0.06mil; 0.00152mm
100	Mylar <sup>®</sup>	2.5 µ; 0.00010"; 0.10 mil; 0.00254mm
150	Mylar <sup>®</sup>	3.6 µ; 0.00014"; 0.14 mil; 0.00356mm
250	Mylar <sup>®</sup>	6.0 µ; 0.00024"; 0.24 mil; 0.00610mm
416	Prolene <sup>®</sup>	4.0 µ; 0.00016"; 0.16 mil; 0.00406mm
425	Polypropylene	6.0 µ; 0.00024"; 0.24 mil; 0.00610mm
475	Polypropylene	12.0 µ; 0.00050"; 0.50 mil; 0.0127mm

\*Supplied in 50' (15.2m) lengths

**PRE-PERFORATED THIN-FILM ROLLS:**

3" wide x 300' long (7.6cm x 91.4 m) roll; 1200 Individual 3" x 3" (7.6cm x 7.6 cm) Perforated Sheets

CATALOG NUMBER	THIN-FILM SUBSTANCE	GAUGE
090-PP	Ultra-Polyester <sup>®</sup>	1.5 µ; 0.00006"; 0.06mil; 0.00152mm
095-PP	Etnom <sup>®</sup>	1.5 µ; 0.00006"; 0.06mil; 0.00152mm
100-PP	Mylar <sup>®</sup>	2.5 µ; 0.00010"; 0.10 mil; 0.00254mm
150-PP	Mylar <sup>®</sup>	3.6 µ; 0.00014"; 0.14 mil; 0.00356mm
250-PP	Mylar <sup>®</sup>	6.0 µ; 0.00024"; 0.24 mil; 0.00610mm
416-PP	Prolene <sup>®</sup>	4.0 µ; 0.00016"; 0.16 mil; 0.00406mm
425-PP	Polypropylene	6.0 µ; 0.00024"; 0.24 mil; 0.00610mm
475-PP	Polypropylene	12.0 µ; 0.00050"; 0.50 mil; 0.0127mm