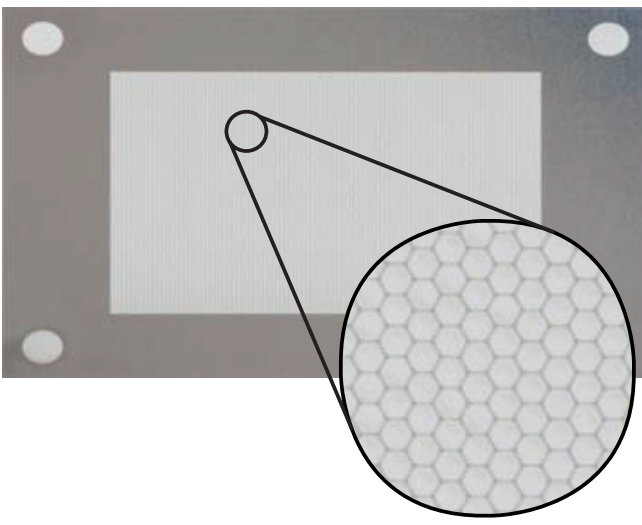


ProLINE™ series X-ray windows



ProLINE 10 (no metal support grid)



ProLINE 20 (metal support grid)

Applications

WDXRF Systems

- Flow proportional counters
- Microanalysis
- Column separation windows
- Detector arrays
- Electron windows

| Features | Benefits |
|---------------------------------|---|
| Ultra-thin polymer film | High transmission of low energy x-rays |
| Metal support mesh (ProLINE 20) | Additional strength, improved differential pressure performance |
| Thin aluminum coating | Charge dissipation |
| | UV, IR, and visible light rejection |
| Large open area | High count rate |
| High purity | Minimal spectral contamination |
| Uniform thickness | Consistent transmission |

ProLINE™ Series windows are ideal for applications that require high transmission of low energy x-rays. ProLINE Series windows have higher performance than stretched polypropylene and other commonly used WDXRF windows. ProLINE windows are typically used for flow proportional counter systems.

Window composition

ProLINE series windows are composed of an ultra-thin layer of Moxtek® polymer and a charge dissipative layer of aluminum attached to a thin metal frame. Window frames may be provided by the customer or by Moxtek. Custom window thicknesses available for individual applications.

X-ray transmission

ProLINE series windows are ideal for applications that require high transmission of low energy x-rays. ProLINE 10 windows have 100% open area without metalsupport. ProLINE 20 windows have reduced transmission due to the metal support grid. See transmission chart on the next page.

Vacuum tightness

Windows typically have a leak rate of less than 1×10^{-3} mbar x L/s of helium. Moxtek does not measure the leak rate of ProLINE windows.

Mechanical strength

ProLINE series 10 and 20 windows are more than four times stronger than polypropylene windows of the same thickness. ProLINE 20 windows are supported by a strong metal support grid. ProLINE 20 windows have withstood hundreds of cycles at a differential pressure of 1.2 atm without degradation in indow performance.

Charge dissipation

ProLINE series windows are typically coated with 200 Å of aluminum for charge dissipation and light rejection. Custom thicknesses can be requested.

ProLINE™ series X-ray windows

Window sizes and active area

Window active area geometry can be circular or rectangular. Maximum rectangular active area dimensions are 2.8" x 2.8" (70 mm x 70 mm). Maximum circular active area diameter is 4.0" (101.6 mm).

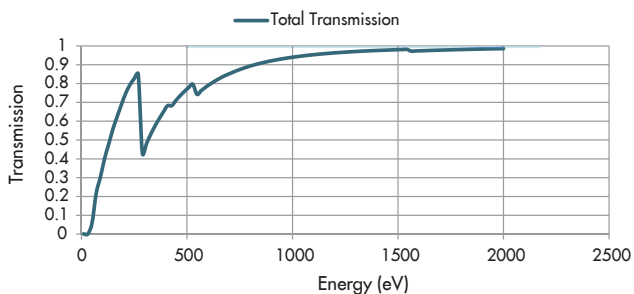
Mounting

Care should be taken to not flex the mount as damage to the window may occur.

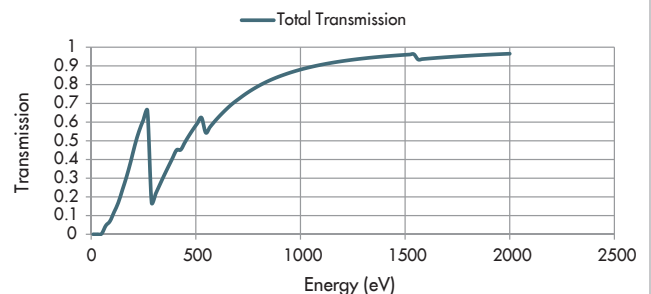
ProLINE series windows are bonded to metal mounts which can be supplied by either the customer or Moxtek. The preferred mount material is stainless steel 300 series. If another material must be used, Moxtek will need to approve the material. A drawing that illustrates the orientation of the window frame with respect to the metal mount should be supplied.

ProLINE series transmission

1500 A PI + 100 A Al Transmission



3000 PI + 300 Al Transmission



6000 A PI + 450 A Al Transmission

