

## THz LENSES & WINDOWS



### Polished Tsurupica Lenses focus THz and visible light

Tsurupica is highly transparent in THz and visible spectral ranges (see transmission spectra on the next page). Refractive index of Tsurupica is the same for THz and visible light ( $n=1.52$ ).

| MODEL             | LENS TYPE               | EXTERNAL DIAMETER/<br>CLEAR APERTURE | FOCAL LENGTH |
|-------------------|-------------------------|--------------------------------------|--------------|
| PTL-1.5"-50mm-AS  | Plano-convex, aspheric  | 1.5" / 30 mm                         | 50 mm        |
| PTL-1.5"-100mm-AS | Plano-convex, aspheric  | 1.5" / 30 mm                         | 100 mm       |
| PTL-2"-50mm-BC    | Bi-convex, spherical    | 2" / 45 mm                           | 50 mm        |
| PTL-2"-100mm-BC   | Bi-convex, spherical    | 2" / 45 mm                           | 100 mm       |
| PTL-2"-180mm      | Plano-convex, spherical | 2" / 45 mm                           | 180 mm       |
| PTL-1.5"-XXXmm    | Plano-convex, spherical | 1.5" / 30 mm                         | Any > 30 mm  |
| PTL-2"-XXXmm      | Plano-convex, spherical | 2" / 45 mm                           | Any > 50 mm  |

### Polyethylene Lenses

Offer the best performance at frequencies below 1 THz and above 7 THz (see transmission spectra on the next page). Polyethylene is not transparent in visible and near-IR spectral ranges, so that the lenses can be used to block light.

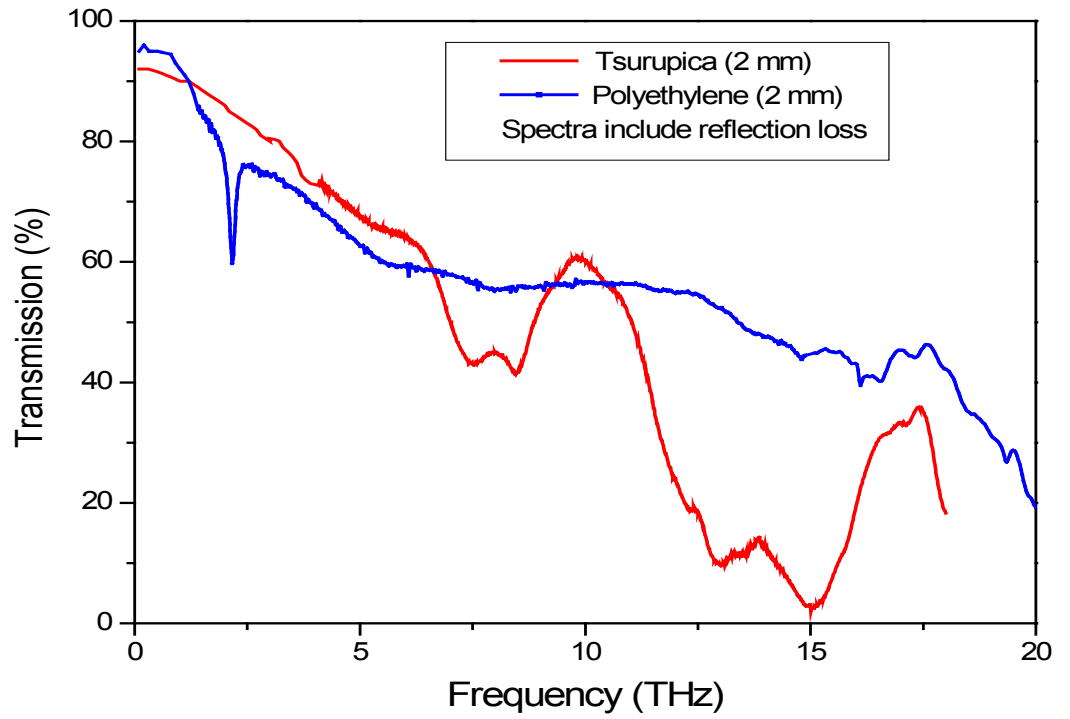
| MODEL       | LENS TYPE            | HOLDER DIAMETER/<br>CLEAR APERTURE | FOCAL LENGTH |
|-------------|----------------------|------------------------------------|--------------|
| PL-2"-60mm  | Bi-convex, spherical | 2.75" / 2"                         | 60 mm        |
| PL-2"-100mm | Bi-convex, spherical | 2.75" / 2"                         | 100 mm       |

### Polished Tsurupica Windows

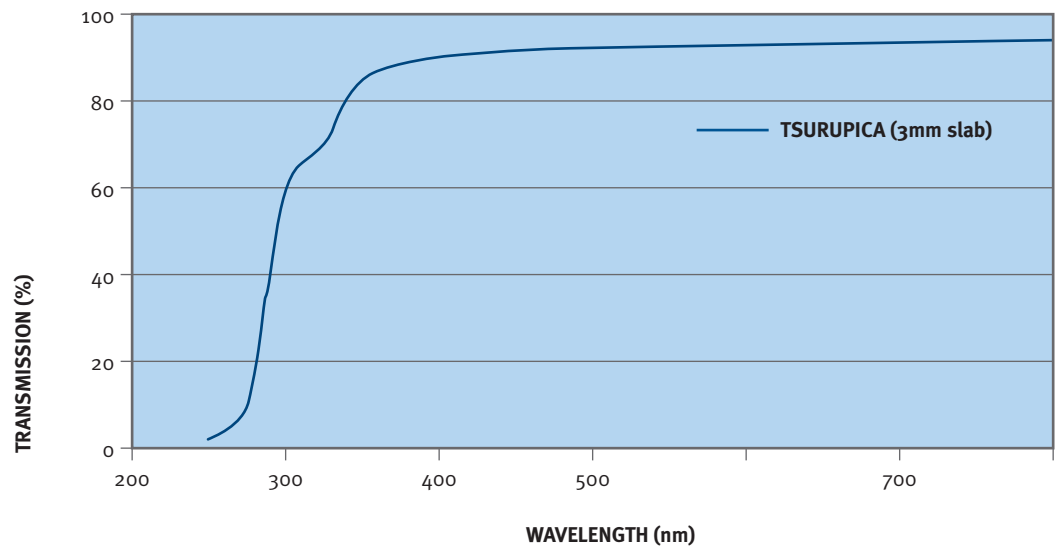
Apart from high transparency in THz and visible spectral ranges, Tsurupica is also very strong mechanically. Thin Tsurupica windows can be used in cryostats, gas cells or any other systems operating at high pressure.

| MODEL        | DIAMETER/THICKNESS    |
|--------------|-----------------------|
| PTW-1"-3mm   | 1" (25.4 mm) / 3 mm   |
| PTW-1.5"-4mm | 1.5" (38.1 mm) / 4 mm |
| PTW-2"-4mm   | 2" (50 mm) / 4 mm     |

## Transmission spectra of Tsurupica and Polyethylene in THz spectral range



## Transmission spectrum of Tsurupica in the visible spectral range



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