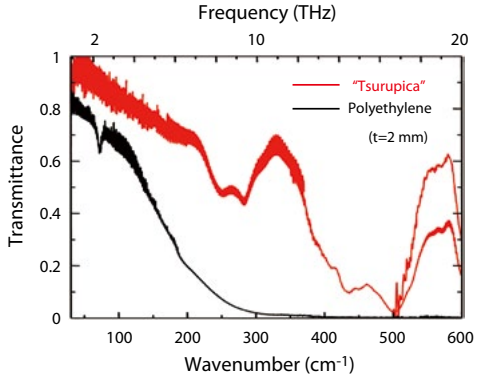
Optical material for THz-wave "Tsurupica®"

Tsurupica® is one of the best material for THz-wave applications.
It is obviously advantageous compared with existing materials such as Polyethyrene and Silicon. Tsurupica shows high transmission and low surface loss not only for THz-wave but for visible light.

	Tsurupica®	Polyethylene	Silicon
THz-wave transmission	Good	Good	Good
Visible transmission	Good	Opaque	Opaque
Color	Transparent	White	Metallic
Fresnel loss	Low	Low	High



Transmittance in THz-wave region

Other features / specifications

- Transmission range: 1~12 THz
- Refractive index: 1.52 @633nm, THz-wave
- Visible laser is applicable as alignment guide.
- Employing "Tsurupica" as a detector window, one can confirm the status of sensor element.
- Customizing dimension, finishing available upon request.

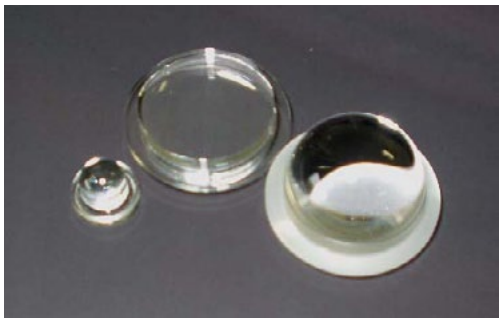
Surface finish

You can choose from 3 types, as requirement of application.

Type-RR: Precision polish. Good transparency in visible light.
Type-R: Semi-transmission polish. Transparent in visible.
Type-S: No polish. Opaque in visible.

Type	RR	R	S
Polish	Precision	Easy	No
Visible transmission	Good	Available*1	Opaque
Shaping error	<15 um P-V*2	NA	NA
Surface roughness	<0.05 um		~2 um
Measurement data	Provided	No	No

*1 Not specified.
*2 <10 um for standard items



Type-RR (Precision polished)

Type-S (No polish)

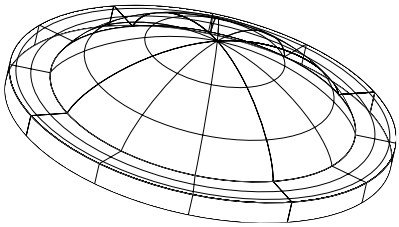
*** This material is the result of cooperative development of PAX, Inc. and Terahertz-wave research group of RIKEN. Please refer the Terahertz database on the RIKEN wibsite for the detailed material specifications.**

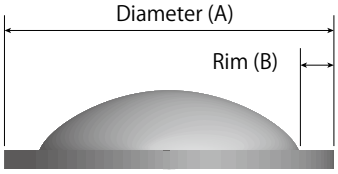
- Terahertz-wave research group, RIKEN: http://www.riken.jp/r-world/research/lab/frontier-rs/tera-wave/photonics/index.html
- The RIKEN Terahertz databese: http://www.riken.jp/THzdatabase/

Product list

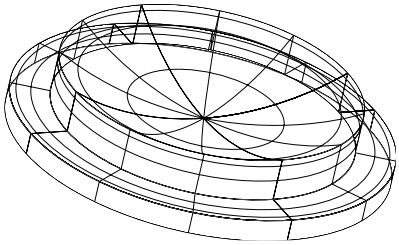
(As of May, 2011)

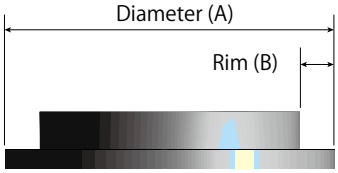
Positive lens



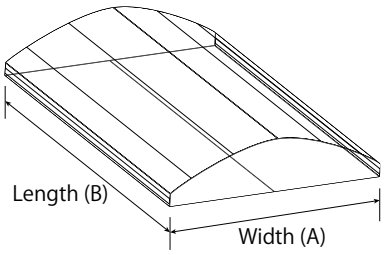


Negative lens





Positive cylindrical



Singlet	Shape	Finish	Diameter (A)	Rim (B)	Focal length(C)	Delivery
Standard positive with rim						
RR-CX-1.5-30-SPS	Aspherical	PP	38.1	9.05	30	Stock
RR-CX-1.5-50-SPS	Asph.	〃	38.1	4.05	50	Stock
RR-CX-1.5-100-SPS	Asph.	〃	38.1	4.05	100	Stock
Positive without rim						
R-CX-(A)-(C)-N	Spherical	P	10~44	0	Any	4~5
			44~70	0	Any	〃
S-CX-(A)-(C)-N	Sph.	NP	10~44	0	Any	3~4
			44~70	0	Any	〃
Positive with rim						
R-CX-(A)-(C)	Sph.	P	10~44	6	Any	4~5
			44~70	6	Any	4~5
S-CX-(A)-(C)	Sph.	NP	10~44	6	Any	3~4
			44~70	6	Any	3~4
Double convex with rim						
R-BiCX-(A)-(C)	Sph.	P	10~44	6	Any	4~5
			44~70	6	Any	4~5
S-BiCX-(A)-(C)	Sph.	NP	10~44	6	Any	3~4
			44~70	6	Any	3~4
Standard negative						
RR-CC-1.5-40-SPS	Asph.	PP	38.1	13.05	-40	Stock
RR-CC-1.5-60-SPS			38.1	9.05	-60	Stock
Cylindrical	Shape	Finish	Width (A)	Length (B)	Focal length	Delivery
Standard positive cylindrical						
RR-SIRI-100-SPS	Asph.	PP	30	50	100	Stock
Circular plane parallel *1	Shape	Finish	Diameter (A)		Thickness (B)	Delivery
Standard plane parallel						
RR-PP-(A)-2		PP	10~30		2	2~3
		PP	30~99		2	〃
Plane parallel						
R-PP-(A)-(B)		P	3~44		1~15	4~5
			44~70		1~15	〃
S-PP-(A)-(B)		NP	3~44		1~15	3~4
			44~70		1~15	〃
Slide glass for microscope	Shape	Finish	Width	Length	Thickness	Delivery
RR-PP-26-76-2-SPS-5		PP	26	76	2	Stock

- Dimensions and focal length are shown in millimeter.
- Finish: PP= precise polish, P= easy polish, NP= no polish
- For semi-customizing item, specify parameters (A), (B), and (C) in ordering.
- Delivery: Weeks after ordering for domestic shipment.

*1 Wedged plane substrate available.
*2 Minimum number of order is 5 for slide glass.

- Precision polish is available for all products upon request.
- Special dimensions are available.
- Specifications subject to change without notice.

Produce, Domestic Sales: PAX, Inc.
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