



Grown in France,
Manufactured in France, Sold all over the World.



RTP

Rubidium Titanyle Phosphate – RbTiOPO₄

Applications

Operation	Advantages	Field of Application
Electro-Optic	<ul style="list-style-type: none"> + High damage Threshold (>15J/cm² at 10Hz, 10ns at 1064nm performed on coated crystals of 10mm long) + No piezoelectric ringing + Low operating voltage (1300V for Y-cut and 1600V for X-cut at 1064nm applied to a crystal pair of 4x4mm² for the aperture and 2x10mm for the length) + Low bulk absorption (<250ppm/cm at 1064nm) + Non hygroscopic 	<ul style="list-style-type: none"> + Used as pulse-picker in femto-second train + Used as Q-switch at high repetition rate

Optical properties

Average refractive index

1.8

Coefficients in Sellmeier's equation

$$n_i^2(\lambda) = A_i + \frac{B_i}{1 - (C_i)^{p_i}} + \frac{D_i}{1 - (E_i)^{q_i}}$$

for $0.5 < \lambda < 3.5 \mu\text{m}$

	A_i	B_i	C_i	D_i	E_i	p_i	q_i
n _x	2.1982	0.8995	0.2152	1.5433	11.585	1.9727	1.9505
n _y	2.2804	0.8459	0.2296	1.1009	9.660	1.9696	1.9369
n _z	2.3412	1.0609	0.2646	0.9714	8.149	2.0585	2.0038

Y. Guillien et al., Optical Materials 22 (2003) 155-162

Transparency range, μm

0.35 → 4.5

Residual absorption (PCI) at 1064nm:

<250 ppm/cm

Electro-optical constants (@ 633 nm, 1 kHz), pm. V⁻¹

r₃₃ 33.0

r₁₃ 10.9

r₂₃ 15.0

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Dielectric constant (ϵ_{eff})

Physical properties

Chemical formula

RbTiOPO₄

Crystal structure

Orthorhombic

Point group

mm2

Lattice parameters, Å

a 12.96

b 10.56

c 6.49

Hygroscopic susceptibility

none

Density, g.cm⁻³

3.6

Resistivity (20°C, 20% Humidity), Ohm.cm

10¹²

Aperture, mm²:

from 2x2 to 9x9

Length, mm:

up to 10

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