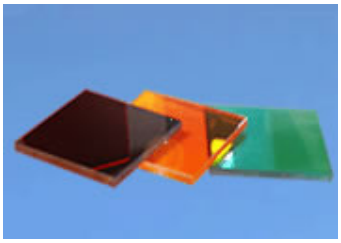
Color Glass Filter

Specifications:	
Material:	FIFO colored glass
Size Tolerance:	±0.15mm
Thickness:	3mm(nominal)
Surface Quality:	80-50
Parallelism:	2 arc min (0.6 mrad)
Mzx.temperature	250℃



TRANSMITTANCE OF COLORED GLASS FILTERS

As with any transparent optical material,colored filter glass has surface reflectance is given by:

R = (n0-n1/n0+n1)*(n0-n1/n0+n1)……（1）

Where:

R = Reflectance

no = index of refraction of air

n1 = index of refraction of the colored glass, typically 1.51-1.56. Therefore,R ≈ 0.04 per surface for a typical colored glass in air.The total reflection loss for two surfaces is approximately 0.08 or 8%. The transmittance curves on pages 10-6 to 10-15 do not include the surface reflection losses. They show the internal transmittance of the filter glass.To find the total transmittance through the filter (including the reflection losses), multiply the internal transmittance at any wavelength by the reflection correction factor. Values for these are given in the table listing the individual glasses. Internal transmittance can also be used to determine the transmission at other glass thickness by: (Tt2)=(Tt1)t2/t1……(2) Where: Tt1 = Internal transmittance at λ for thickness t1

Tt2 = Internal transmittance at λ for thickness t2

COMBINING COLORED GLASS FILTERS

You can combine colored glass filters in series to change the band pass or increase the attenuation.The internal transmission at any given wavelength is the product of the internal transmission of each filter at that wavelength.(Note the term internal transmittance is used; surface reflections must be accounted for separately.) If two colored glass filters are used in series,the total transmission(TT)through the two filters must be corrected for reflection loss by:

TT=(T1)(R1)(T2)(R2)

Where:

T1 = Internal transmission of the first filter

R1 = Reflection loss factor for the first filter

T2= Internal transmission for the second filter

R2=Reflection loss factor for the second filter

If the bandpass filter transmits the signal and the radiation transmitted outside the bandpass is "noise,"then the signal to noise ratio can often be improved by using several filters of same type.

FIFO Optics Co., Ltd

China Address:2nd Floor, B2-B08, Rongqiaojinjiang New World No.66,Jiangbin, Boulevard West, Fuzhou Fujian, 350002 P.R.China.

USA Address:2010 Crow Canyon Place, Suite 100, San Ramon, 94583 U.S.A.

Tel: +86-591-8389-7866 Fax: +86-591-8383-5578

E-mail: marketing@fifooptics.com URL: www.fifooptics.com

Tel: (925)234-4868 Fax: (925)892-6228

E-mail: marketing@fifooptics.com URL: www.fifooptics.com