



Company Profile

HOYA

1 Corporate History & Data

2 Production

3 Production in China

4 Product – Spectral Transmittance

5 Product Line-up

1. Starting from Zero – with passion for melting glass

Starting from Zero – with passion for melting glass

Hoya traces its beginnings back to Tokyo Optical Glass Manufacturing, established in November 1941 by the brothers Yamanaka.

Optical glass requires highly sophisticated manufacturing technology compared to other types of glass, and at that time it was the most technologically advanced industry.

Hoya has become a global business group, 70 years later, with over 36000 employees in over 100 subsidiaries worldwide.

(as of Sept. 30, 2011)

2. New Leader, New philosophy



The brothers Yamanaka



Hoya plant

1941

The brothers Shoichi and Shigeru Yamanaka set up a production plant in the town of Hoya, Tokyo, and production of optical glass, the most advanced technology in Japan at the time, begins.

3. An Era of Globalization and Diversification



Crystal chandeliers

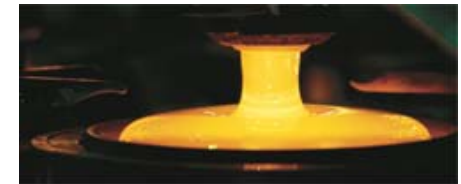
1945

After the World War II ends, the company changes its core business to make effective use of the substantial remaining inventories of kaolin for crucibles. Started from handcrafted crystal glassware such as tumblers and stemware, then extended to crystal chandeliers.

4. Aiming at Sustainable growth

1950

As a result of labor conflict, the plant is closed. Shigeru Yamanaka insists that the melting furnace should not be turned off even under such circumstances.



Passion for melting glass

1951

Filled with a passion toward the melting of glass, Hoya resumed production of optical glass for use in binoculars.

1953

The company began manufacturing optical glass for cameras. New era of growth as a global company begins.



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**New Leader,
New philosophy**



Tetsuo Suzuki

1957
Tetsuo Suzuki takes over the leadership of Hoya at an age of 32. He transforms the Company into a global decentralized Family of Companies. Under his leadership, the company tackles the development of new glass under a corporate motto of “Exploring the possibilities of glass.”

1958
The eyeglass business begins with the manufacture of lens press material.

1960
Three group companies merge to Hoya Crystal and new logo is established. The slogan “Exploring the functional possibilities of glass,” is also announced.



New logo established in 1960

1962
The first original lens “NEO” is launched. Its UV protection and anti-glare characteristics as well as a new curve design without comma aberration are well received.

1967
The first progressive multifocal eyeglass lens is launched. The product “Hoya Varilux” is made with a technical cooperation by Essel.



Hoya Varilux



Hoya USA

1970
During Tetsuo Suzuki’s tenure as president, he introduces simile of “a big fish in a small pond,” which remains the philosophy of Hoya.

Hoya USA opens in San Francisco as the first office outside Japan.



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An Era of Globalization and Diversification



Hoya Lens Thailand

1974
Our first overseas plant Hoya Lens Thailand opens in Patumthani.

1974~75
The company begins production of semiconductor mask blanks, applying Hoya’s optical and high-precision polishing technology.

1984
The company is renamed Hoya Corporation and shifts its main focus of business from “glass” to “light (optics)”.

1986
The company establishes R&D Center in the town of Akishima, Tokyo.



R&D Center

1987
The first intraocular lenses (IOLs) are launched.

1989
Hoya establishes Hoya Europe B.V. of the Netherlands (currently Hoya Holdings N.V.) and Hoya Corporation USA to reinforce global management.

1991
Hoya launches glass disks for HDDs.



Glass disks for HDD



Mamoru Yamanaka(left) and Tetsuo Suzuki

1993
Mamoru Yamanaka takes over the leadership of Hoya until 2000. Tetsuo Suzuki becomes Chairman.

1997
Hoya establishes Hoya Holdings Asia Pacific Pte Ltd, as the third regional area HQ after Hoya Holdings N.V. and Hoya Holdings, Inc., the area HQs for Europe and North America, respectively.

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4. Aiming at Sustainable growth

Aiming at Sustainable growth



Hiroshi Suzuki

2001
Hiroshi Suzuki becomes the CEO of the group.

The first soft intraocular lenses are launched.

2003
Hoya transfers its global financial management operations to an area HQs in the Netherlands.



PENTAX

PENTAX endoscope

2007
PENTAX becomes a consolidated subsidiary of Hoya. Hoya now operates in three fields; Information Technology, Eye care and PENTAX (Lifecare and Imaging.)

2008
Hoya and PENTAX merge.

2009
Hoya terminates the Crystal business after 64 years of operation.

2010
Hoya Healthcare Co. Ltd. becomes Eye Care division of Hoya Corporation. The company now operates in four business fields; Electronics, Imaging, Healthcare and Medical.



Evecity contact lens retail store

2011
The company donates 100 million Japanese yen to assist relief and recovery efforts in communities affected by the disaster in Japan in March. Medical equipment and other products are also provided as needed.

Hoya Employees worldwide donate to members of Hoya group and their families who are victims of the earthquake. The company matches the donations by contributing the same amount.

Hoya transfers its camera business to Ricoh on October 1, 2011.

Hoya celebrates 70 years anniversary and looks to the next 70 years of providing services for consumers, partners and communities around the world.

■ CORPORATE DATA

HOYA CORPORATION

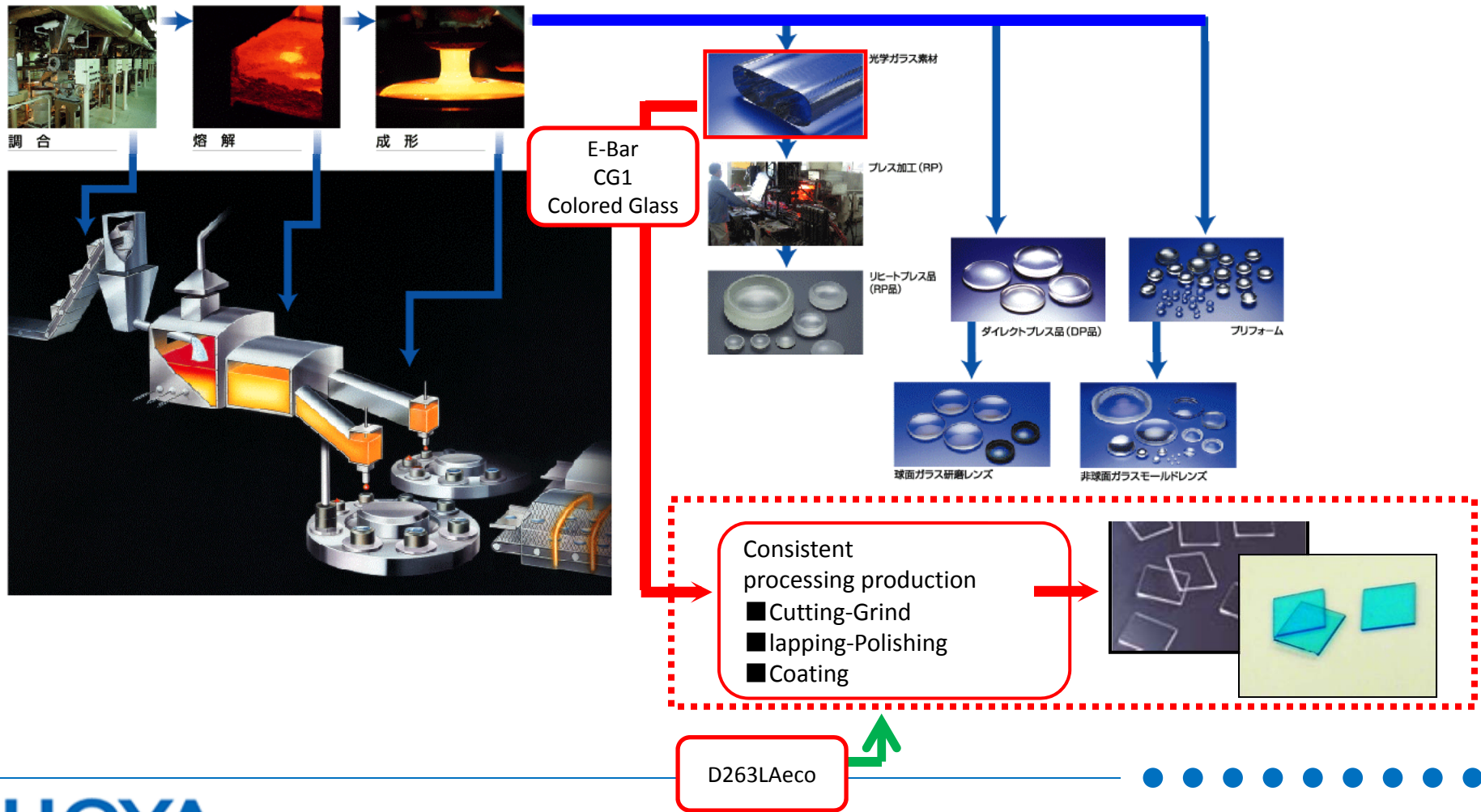
Business Unit	Main Products
Electronics	Photomasks/mask blanks for semiconductors, Photomasks for LCDs, Glass disks for hard disk drives
Imaging	Optical lens/glasses, Lens modules for digital camera, Micro lenses, Laser equipment
Health Care	Eyeglass lenses, Contact lenses and accessories
Medical	Medical endoscopes, Intraocular lenses, Bone prosthesis, Medical accessories
Other	System architecture

Founded: Year 1941 (71years)
Paid-capital: Year 6.2 B Yen
(75.9MUS)
Number of
Employees: 32,363 (Group total)
Net Sales: 376.9 B Yen (4.57BUS)
(FY2011 consolidated)
URL: <http://www.hoya.co.jp/english/index.html>

PRODUCTION

HOYA Production Process (Material - Processing)

HOYA Optics Division Akishima Plant



PRODUCTION IN CHINA



Design image

Manufacture building

Administration building

FACTORY

- Factory area 8,000m²
- Manufacture area 2,600m²

HOYA's
Quality

EQUIPMENT

- Melting furnace: 1 (Maximum 2)
- Crucible capacity: 500liter, 300liter
- Manufacturing capacity: 160ton/year (Maximum 250ton/year)
- Glass block size: 1.25 x 2.5m



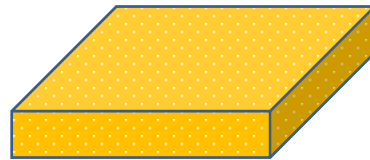
■ PRODUCTION IN CHINA

We can supply 3 forms of products

Current HOYA's spec



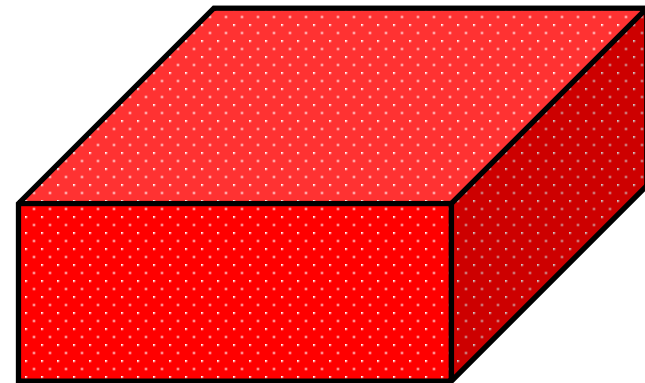
Polished products



Ground products
(max. 165mm sq. x
9mm thick)



NEW



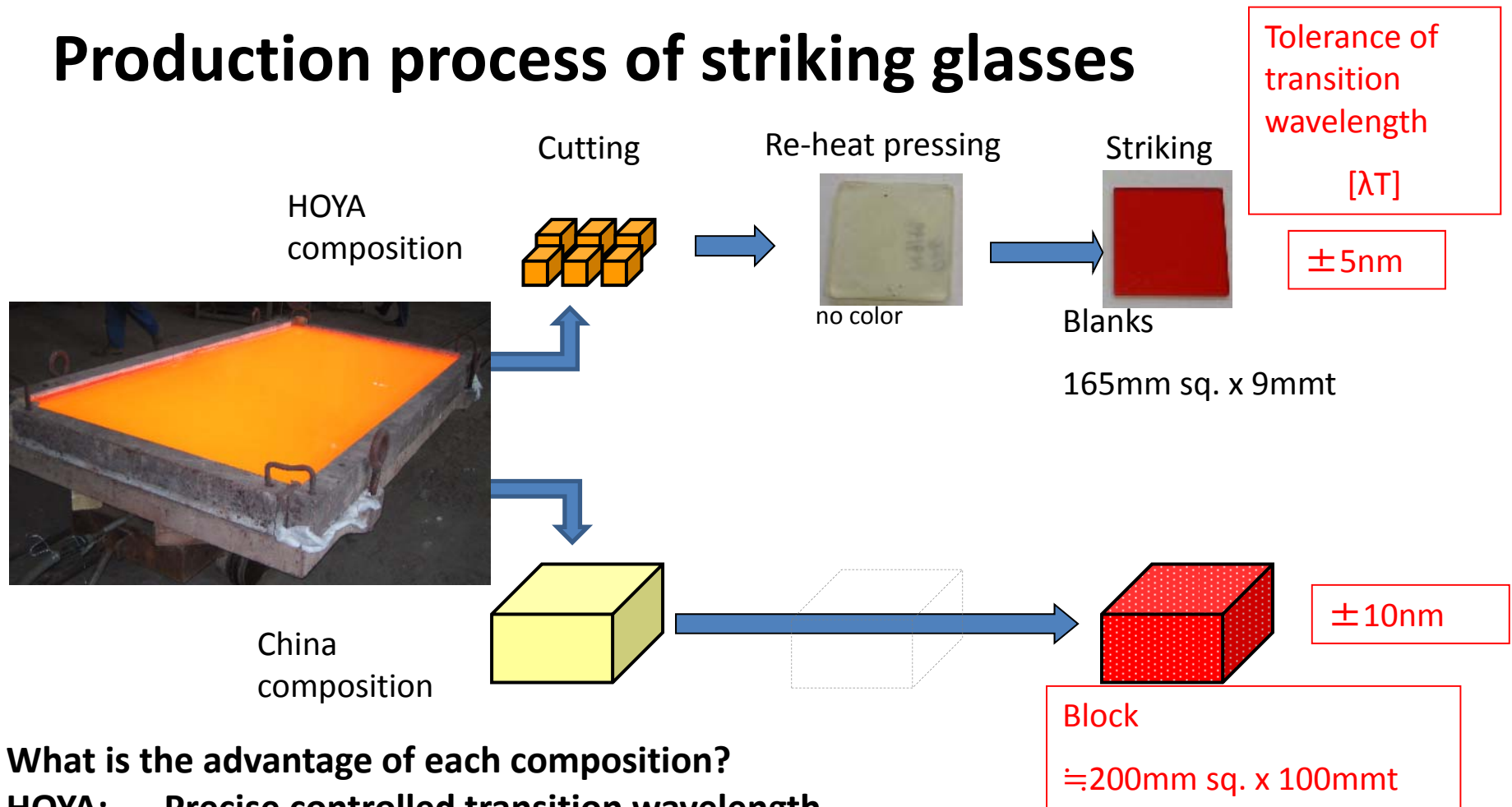
Bigger striking blocks
(200mm sq. x 100mm t)

*Produced by HOYA affiliated in China

China melting technology enables to provide bigger striking blocks.

PRODUCTION IN CHINA

Production process of striking glasses





What is the advantage of each composition?

HOYA: Precise controlled transition wavelength

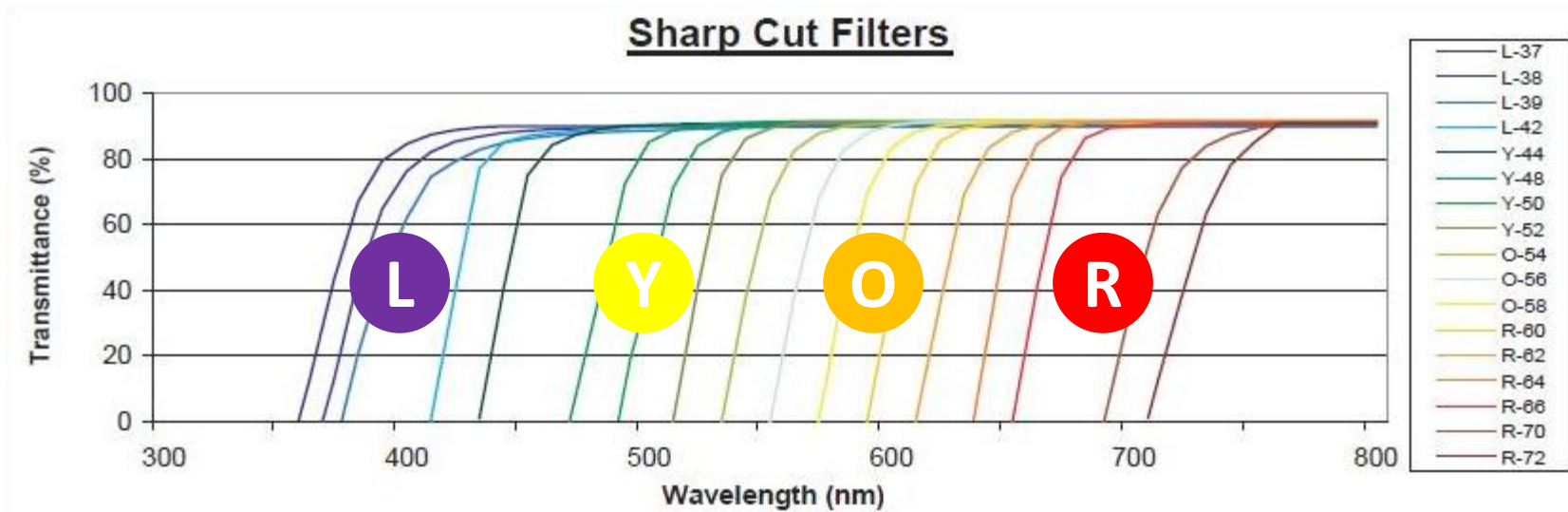
China: Bigger block size → Competitive price against other brand
Compatible product range with other brand

■ PRODUCTION IN CHINA

We are able to provide both HOYA and China composition glasses.

	HOYA composition	China composition
<p>YOR series (Striking glass)</p> 	<ul style="list-style-type: none"> ◇ Polished products ◇ Ground products <p><u>Precise controlled striking</u></p>	<ul style="list-style-type: none"> ◇ Block glasses <u>Cheaper cost</u> ◇ Ground products
<p>Others Blue, Green, ND, etc</p> 	<ul style="list-style-type: none"> ◇ Polished products ◇ Ground products ◇ Block glasses 	<p>Available (on demand)</p>

PRODUCT – SPECTRAL TRANSMITTANCE

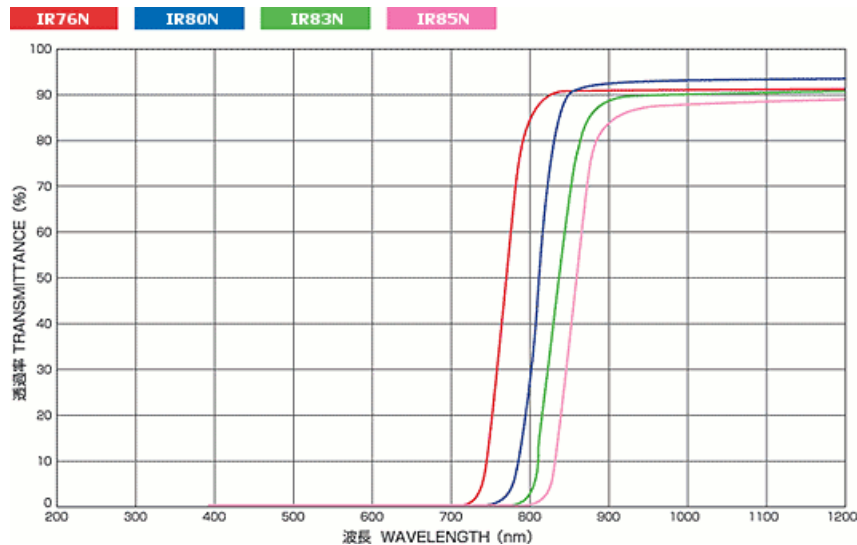


Sharp cut filters are defined as filters that cut off as much as possible of the wavelength light shorter than a specific wavelength, while transmitting as much of longer wavelength light as possible, within a wavelength range of 259nm to 800 nm.

PRODUCT – SPECTRAL TRANSMITTANCE

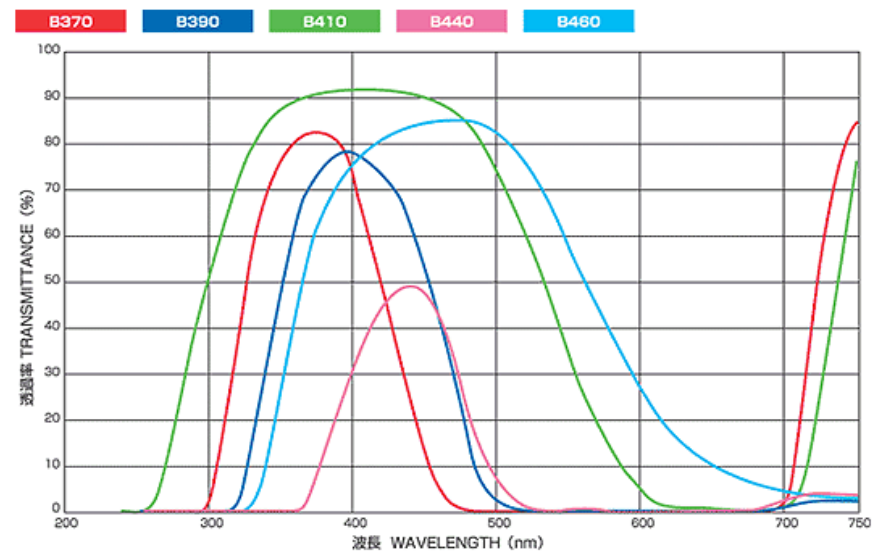
IR

Infrared Transmitting Filters



Infrared-transmitting filters absorb most of visible region and transmit the infrared region. They are widely used in light sources for such purposes as infrared warming systems and night-vision equipment.

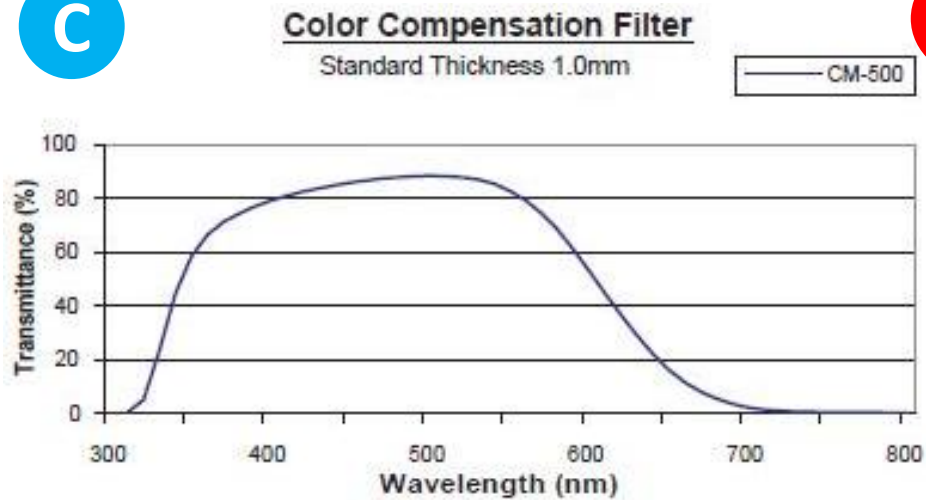
B



Blue filters transmit light in the blue spectrum and are named after the wavelength at which their transmittance attains the maximum value. They are used for 3-color separations, section of wavelengths, and color compensation.

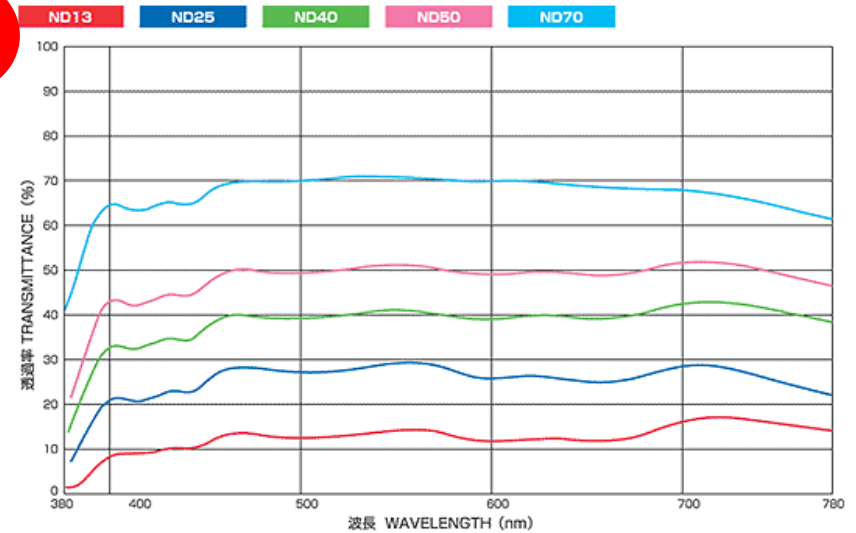
PRODUCT – SPECTRAL TRANSMITTANCE

C



Color compensating filters control light in the blue, green and red regions of the visible spectrum, and include the cyan series and magenta series.

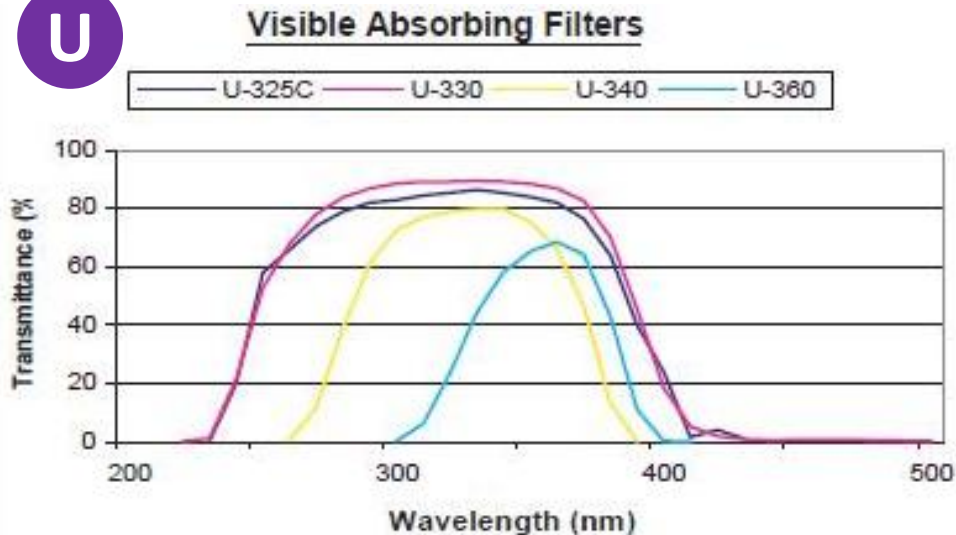
ND



These filters possess level spectral transmittance characteristics in the visible region, and are numbered with the average value of transmittances at 10nm steps in the 400nm to 700nm range. ND-50, for instance, signifies an average transmittance of 50%.

PRODUCT – SPECTRAL TRANSMITTANCE

U



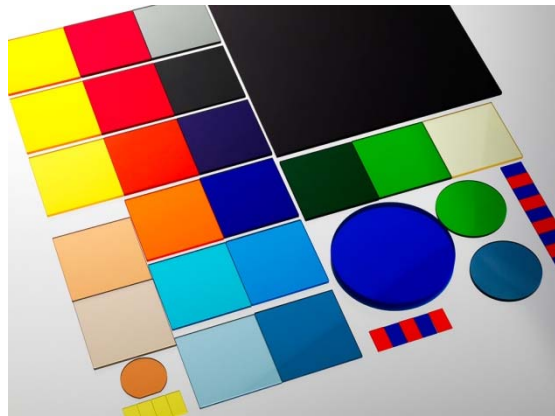
These are dark glass filters, nearly black, which transmit the ultraviolet region but absorb the spectrum. They transmit slightly in the near-infrared region.

Green Filters (G), Light Balancing Filters (LA, LB), Multiband Calibration Filters (V), Heat Absorbing Filters (HA) and many more are also available with us.

■ PRODUCT LINE-UP

Colored Glass Filters

These filters are used in a variety of fields such as photography, optical instrument, scientific/chemical, educational, and medical.



Opto - Electronics Glasses

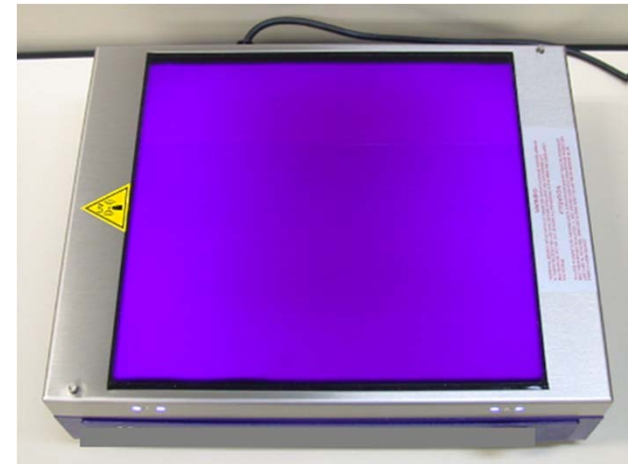
The Company manufactures and sells a diverse range of specialty glass products developed over many years by the HOYA Group.

For example, many of the Company's glass products are used widely by the electrical/electronics industry in many applications.

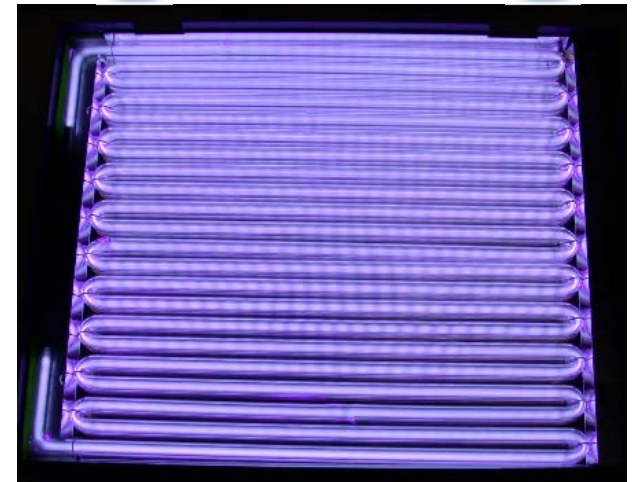


■ PRODUCT LINE-UP

UV transmission, Visibility cut Filter (U325C)
Light-source irradiated only for UV
For DNA inspection, mineral appraisal etc

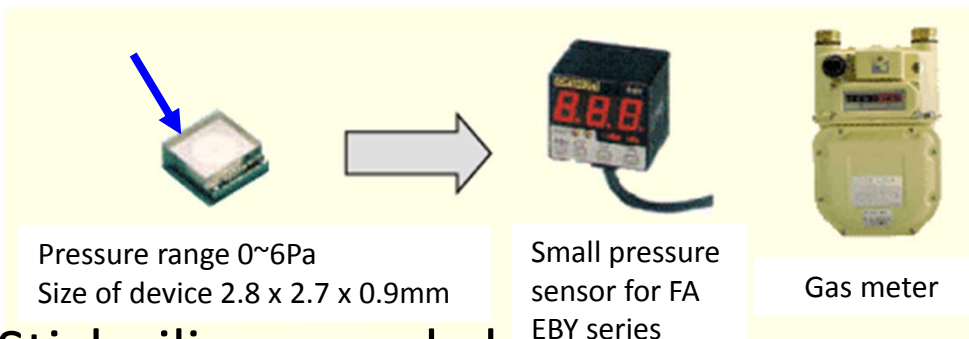


Turning-on Lamp



PRODUCT LINE-UP

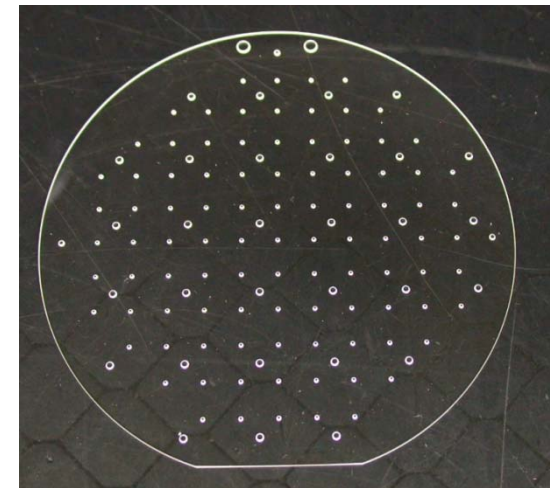
Special Glass SD2 (Silicone Expanding Glass)
For high precision pressure sensor etc



Pressure range 0~6Pa
 Size of device 2.8 x 2.7 x 0.9mm

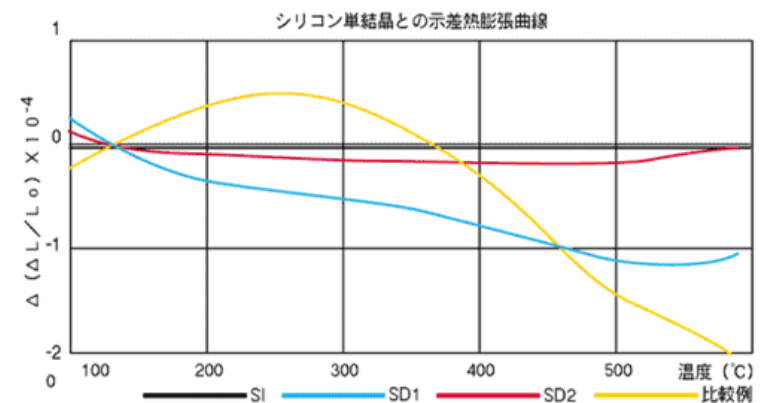
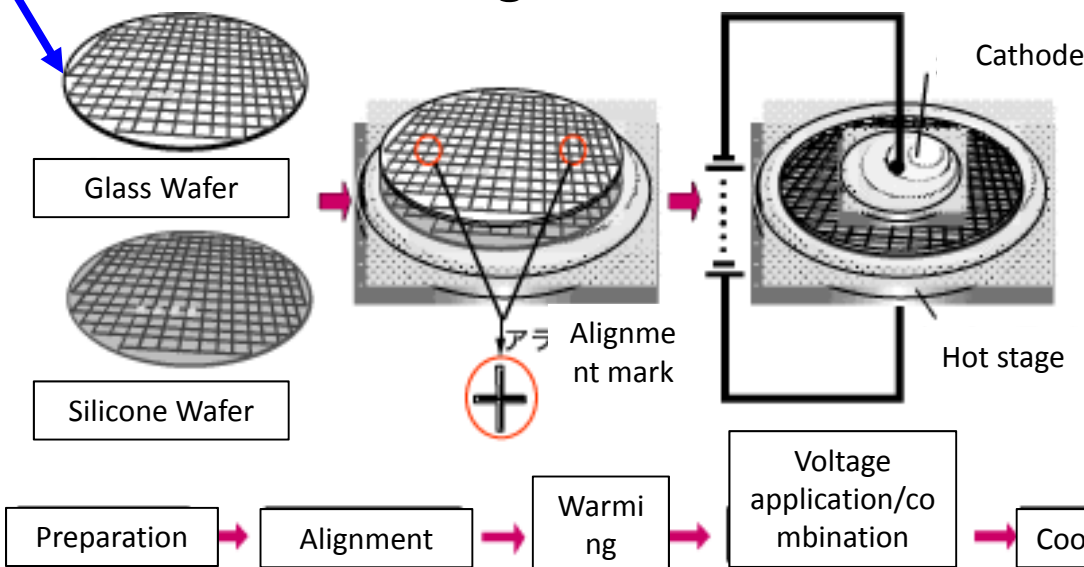
Small pressure
 sensor for FA
 EBY series

Gas meter



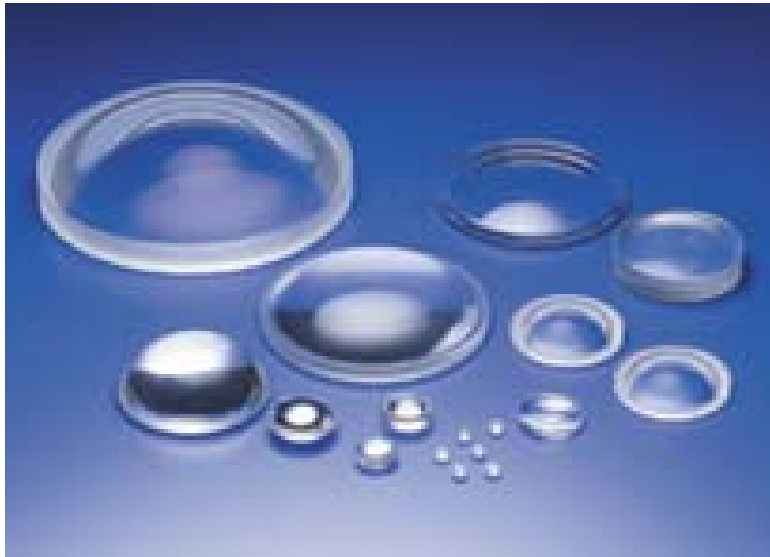
Silicone single crystal and differential thermal expanding curve

Stick silicone and glass



■ PRODUCT LINE-UP

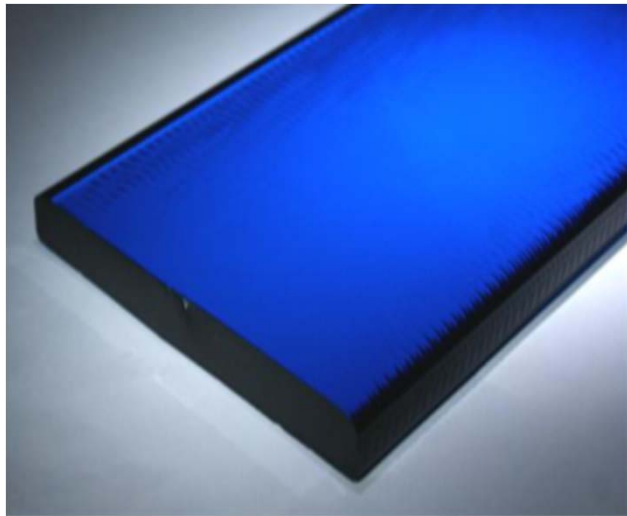
Optical Glass



Group Name	HOYA	Group Name	HOYA
Fluor Crown	FC	Flint	F
Dense Fluor Crown	FCD	Dense Barium Flint	BAFD
Dense Phosphate Crown	PCD	Dense Flint	FD
Boro Silicate Crown	BSC	Special Dense Flint	FDS
Crown	C	Fluor Flint	FF
Barium Crown	BAC	Light Lanthanum Flint	LAFL
Dense Barium Crown	BACD	Lanthanum Flint	LAF
Extra Dense Barium Crown	BACED	Niobium Flint	NBF
Light Lanthanum Crown	LACL	Tantalum Flint	TAF
Lanthanum Crown	LAC	Dense Niobium Flint	NBFD
Tantalum Crown	TAC	Dense Tantalum Flint	TAFD
Crown Flint	CF	Abnormal Dispersion Crown	ADC
Extra Light Flint	FEL	Abnormal Dispersion Flint	ADF
Barium Flint	BAF	Low Birefringence Crown	LBC
Light Flint	FL	-	-

PRODUCT LINE-UP

C700 SERIES



Characteristics of HOYA IR Cut Glass C700 Series

