

Glass designation :

PHOTOBROWN 16/45

Code **8211**

Color : **Clear to medium brown**
 Glass type : **High index photochromic crown glass.**

Application : **Ophthalmic lenses : Single vision, progressive addition.**

PHYSICAL PROPERTIES

Density : **2.8 g/cm³**
 Linear Exp. Coef. : **60.5 10⁻⁷/°C**
 Viscosity : **Soft. Pt 705 °C**
 Ann. Pt 545 °C
 Strain Pt 500 °C

REFRACTIVE INDEX

Line		λ (nm)	Value
F'	Cadmium	480.0	1.61081
F	Hydrogen	486.1	1.61004
e	Mercury	546.1	1.60400
d	Helium	587.6	1.60090
C'	Cadmium	643.8	1.59957
C	Hydrogen	656.3	1.59692
Abbe Number		ve	45.5
		vd	45.7

TRANSMISSION PROPERTIES (2 mm)

VISIBLE 380 - 780 nm
 Luminous transmission factor **Heat Faded 88.0% Darkened 29.0%**

ULTRAVIOLET
 t(max) 280 - 315 nm **<0.1 <0.1**
 t(avg) 280 - 315 nm **<0.1 <0.1**
 Solar UV-B transmission factor **<0.1 <0.1**

t(max) 315 - 350 nm **5.5% 1.5%**
 t(moy) 315 - 380 nm **9.5% 2.5%**
 Solar UV-A transmission factor **6.5% 1.5%**

BLUE LIGHT 380 - 500 nm
 Blue light transmission factor **81.0% 22.0%**

TRAFFIC SIGNAL RECOGNITION

ISO 14889 Pass
ANSI Z80-3 Pass
AS 1067.1 Pass

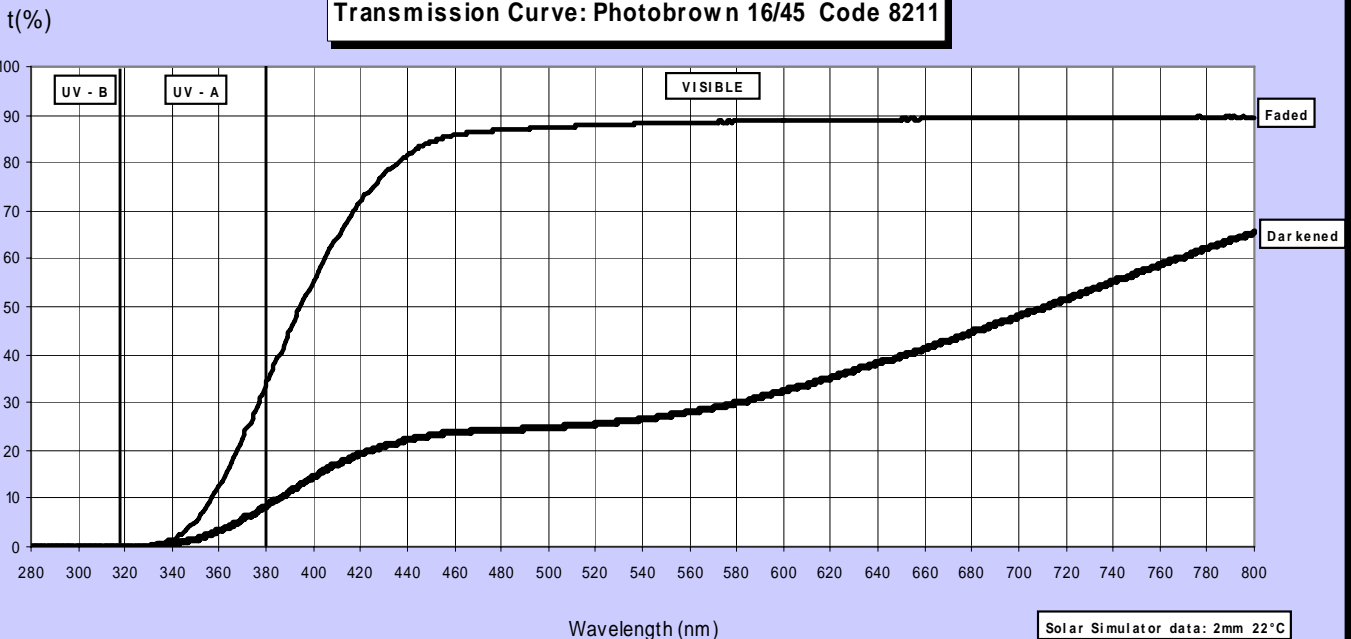
COATING & TEMPERING

(See also notes below)

Vacuum coating YES
Chemical tempering YES
Air tempering YES

CHEMICAL DURABILITY (class)

To water NF B 35601 HGB2
To acid DIN 12116 4
To alkalis NF B 35602 A1



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Note :

Heat treatments as indicated below, or vacuum coatings, may cause changes in transmission and color properties.

Chemtempering :

Recommended bath and cycle

Bath :	Potassium Nitrate	59.5%	Time :	16 Hr
	Sodium Nitrate	40%	θ °C :	400 °C
	Silicic acid	0.5%		

Air tempering :

Use standard schedule for photochromic crown glass.

Compatible Bariums :

This glass has not been designed for fused multifocal production. There is no compatible barium to be fused with this glass.

Heat forming :

Aspheric or progressive addition lenses heat forming is possible under controlled conditions.

Technical informations are available from CORNING SAS Sales Dpt

Transmittance properties according to ISO 8980-3

Photochromic response :

Temperature			2 mm thickness
22 °C	Heat faded	Tv (0)	88.0%
	15 mn darkened	Tv (15)	29.0%
	5 mn faded		59.0%
	Night driving conditions ⁽¹⁾		81.0%
5 °C	15 mn darkened	Tv (15)	19.5%
35 °C	15 mn darkened	Tv (15)	41.0%

⁽¹⁾ Reference : ISO 8980-3 Chapter 6.5

Transmission categories :

	2 mm
Faded state	Category 0
Darkened state	Category 2
Night driving ⁽²⁾	Yes

⁽²⁾ Reference : ISO 14889 Chapter 4.5

Properties according to ISO 14889

ISO 14889 Chapter 4.3.1

Physiological compatibility

The above glass products are not known to be physiologically incompatible, nor known to create a significant number of allergic reactions, when the lenses made out of these materials are used as intended by the manufacturer

ISO 14889 Chapter 4.3.2

Flammability

The above glass products are not flammable, and when tested as described in chapter 5.1 of ISO 14889, there is no continued combustion after withdrawal of the test rod.