

Glass designation :

XDF LIGHT BROWN Code **81016**

Color :

Brown

Glass type :

Light to dark.

Application :

Pretinted 72% photochromic glass suited for general or special purpose sunglass lenses. Neutral brown with excellent color rendition. Pass cited standards for traffic signal recognition at 2 mm thickness. Blanks for corrective lenses available on request.

PHYSICAL PROPERTIES

Density :	2.41	g/cm ³
Linear Exp. Coef. :	65	α +20/+300°C (10 ⁻⁷ /°C)
Viscosity :	Soft. Pt	665 °C
	Ann. Pt	495 °C
	Strain Pt	465 °C

REFRACTIVE INDEX

Line		λ (nm)	Value
F'	Cadmium	480.0	
F	Hydrogen	486.1	
e	Mercury	546.1	
d	Helium	587.6	1.52300
C'	Cadmium	643.8	
C	Hydrogen	656.3	
Abbe Number		ve	
		vd	56.7

TRANSMISSION PROPERTIES (2 mm)

VISIBLE 380 - 780 nm	Faded	Darkened
Luminous transmission factor	72.0%	23.0%
ULTRAVIOLET		
t(max) 280 - 315 nm	0.2 %	< 0.1 %
t(avg) 280 - 315 nm	0.2 %	< 0.1 %
Solar UV-B transmission factor	0.2 %	< 0.1 %
t(max) 315 - 350 nm	4.0%	2.0%
t(avg) 315 - 380 nm	8.0%	3.0%
Solar UV-A transmission factor	6.0%	2.0%

BLUE LIGHT 380 - 500 nm	Faded	Darkened
Blue light transmission factor	54.0%	17.0%

TRAFFIC SIGNAL RECOGNITION

ISO 14889	Pass
ANSI Z80-3	Pass
AS 1067.1	Pass

CAUTION :

Lens thicknesses greater than 3 mm transmit less than the 8% visible transmission required for driving

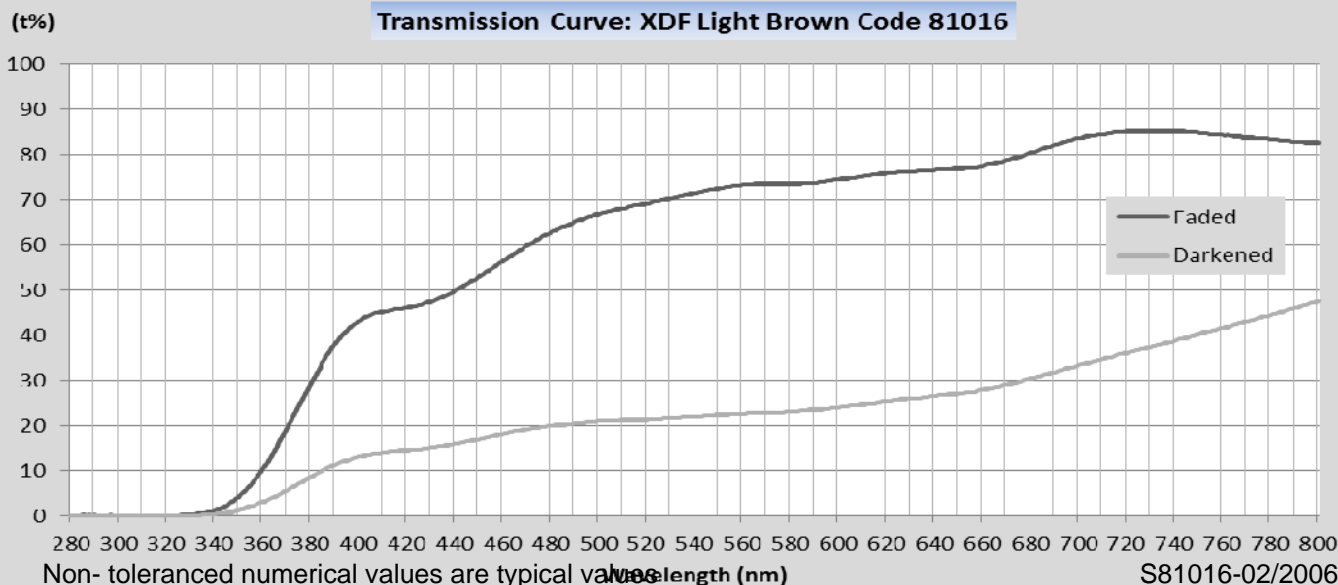
COATING & TEMPERING

(See also notes below)

Vacuum coating	YES
Chemical tempering	YES
Air tempering	YES

CHEMICAL DURABILITY (class)

To water	NF ISO 719
To acid	DIN 12-116
To alkalis	ISO 695



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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 2 Hr
Sodium Nitrate	40.0%	T °C :	400 °C 450 °C
Silicic acid	0.5%		

Air tempering :
Use standard schedule for photochromic crown glass. Minimum lens thickness for normal air tempered is 2 mm.

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

<u>Transmittance properties according to ISO 8980-3</u>			
Photochromic response :			
Temperature			2 mm thickness
22 °C	Heat faded	Tv (0)	72%
	15 mn darkened	Tv (15)	23%
	5 mn faded		48%
	Night driving conditions ⁽¹⁾		65%
5 °C	15 mn darkened	Tv (15)	18%
35 °C	15 mn darkened	Tv (15)	33%

⁽¹⁾ Reference : ISO 8980-3 Chapter 6.5

Transmission categories :

	2 mm
Faded state	1
Darkened state	2
Night driving ⁽²⁾	1

⁽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.