

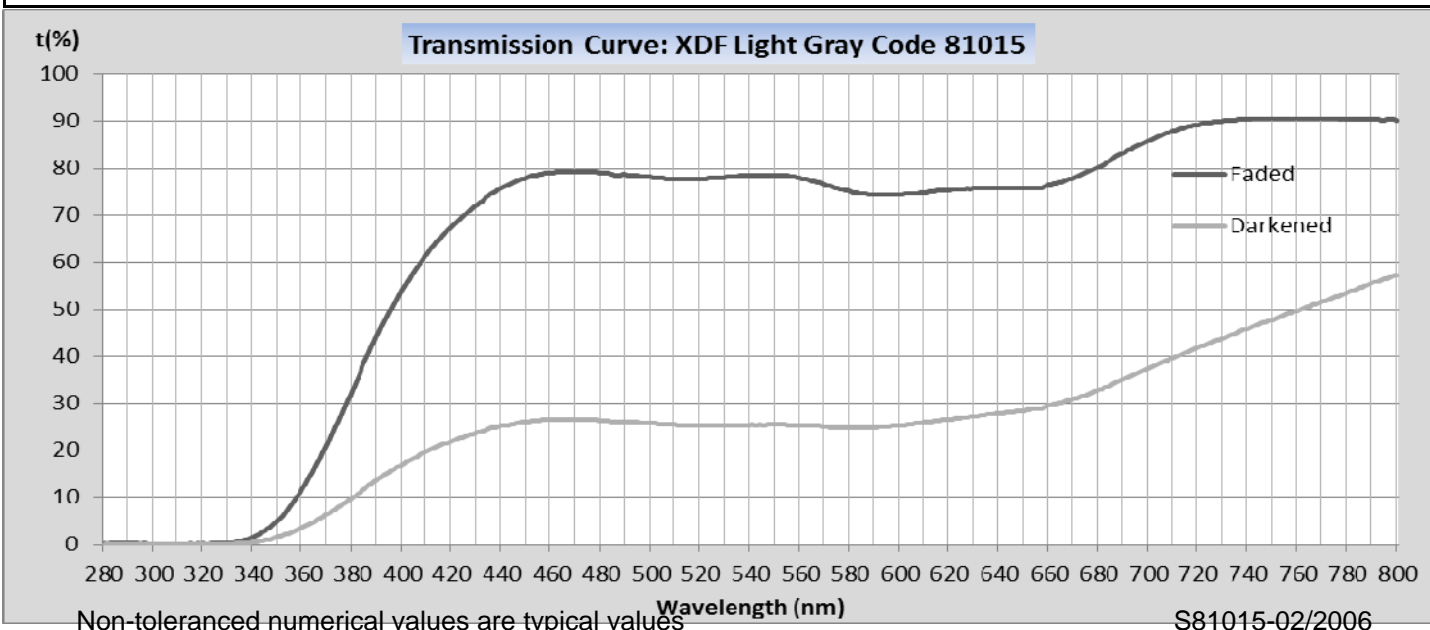
Glass designation :	XDF LIGHT GRAY	Code 81015
Color :	Gray	
Glass type :	Light to dark.	
Application :	Pretinted 77% photochromic glass suited for general or special purpose sunglass lenses. Neutral gray with excellent color rendition. Pass cited standards for traffic signal recognition at 2 mm thickness. Blanks for corrective lenses available on request.	

<u>PHYSICAL PROPERTIES</u>			
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
<u>REFRACTIVE INDEX</u>			
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

<u>TRANSMISSION PROPERTIES (2 mm)</u>			
VISIBLE 380 - 780 nm	Faded	Darkened	
Luminous transmission factor	77.0%	25.0%	
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	5.0%	2.0%	
t(avg) 315 - 380 nm	10.0%	3.0%	
Solar UV-A transmission factor	7.0%	2.0%	
BLUE LIGHT 380 - 500 nm			
Blue light transmission factor	75.0%	25.0%	
TRAFFIC SIGNAL RECOGNITION			
ISO 14889	Pass		
ANSI Z80-3	Pass		
AS 1067.1	Pass		
CAUTION :			
<i>Lens thicknesses greater than 3 mm transmit less than the 8% visible transmission required for driving</i>			

<u>COATING & TEMPERING</u>	
(See also notes below)	
Vacuum coating	YES
Chemical tempering	YES
Air tempering	YES

<u>CHEMICAL DURABILITY (class)</u>	
To water	NF ISO 719
To acid	DIN 12-116
To alkalis	ISO 695



Glass designation :	XDF LIGHT GRAY	Code	81015
Color :	Gray		
Glass type :	Light to dark.		
Application :	Pretinted 77% photochromic glass suited for general or special purpose sunglass lenses. Neutral gray with excellent color rendition. Pass cited standards for traffic signal recognition at 2 mm thickness. Blanks for corrective lenses available on request.		

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)	77%
	15 mn darkened	Tv (15)	25%
	5 mn faded		53%
	Night driving conditions ⁽¹⁾		70%
5 °C	15 mn darkened	Tv (15)	21%
35 °C	15 mn darkened	Tv (15)	37%

⁽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.