

Glass designation :

**FUMO 15**

Code

**8219**

Color :

**Gray**

Filter category :

**Dark**

Application :

**100 % UV absorbing glass suited for general or special purpose Tinted Glass. Neutral gray with good color rendition. Enhanced IR absorption. Absorbs over 90% of the solar IR radiation. Pass cited standards for traffic signal recognition at 2 mm thickness.**

**PHYSICAL PROPERTIES**

Density : **2.53** g/cm<sup>3</sup>  
 Linear Exp. Coef. : **96** 10<sup>-7</sup> / °C  
 Viscosity : Soft. Pt **700** °C  
 Ann. Pt **520** °C  
 Strain Pt **480** °C

**REFRACTIVE INDEX**

Line		λ (nm)	Value
F'	Cadmium	480.0	
F	Hydrogen	486.1	
e	Mercury	546.1	
d	Helium	587.6	<b>1.52500</b>
C'	Cadmium	643.8	
C	Hydrogen	656.3	
Abbe Number		ve	
		vd	

**CAUTION :**

Lens thicknesses greater than 2,5 mm transmit less than the 8% visible transmission required for driving.

**TRANSMISSION PROPERTIES (2 mm)**

**VISIBLE 380 - 780 nm**

Luminous transmission factor **14.6%**  
 Transmission category  
 ISO 8980-3 **3**

**ULTRAVIOLET**

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

UV - A tλ(max) 315 - 350 nm **< 0.1 %**  
 t(moy) 315 - 380 nm **< 0.1 %**  
 Solar UV-A transmission factor **< 0.1 %**

**BLUE LIGHT 380 - 500 nm**  
 Blue light transmission factor **11%**

**INFRARED 780 - 2000 nm**

Solar IR Transmission factor **7%**

**TRAFFIC SIGNAL RECOGNITION**

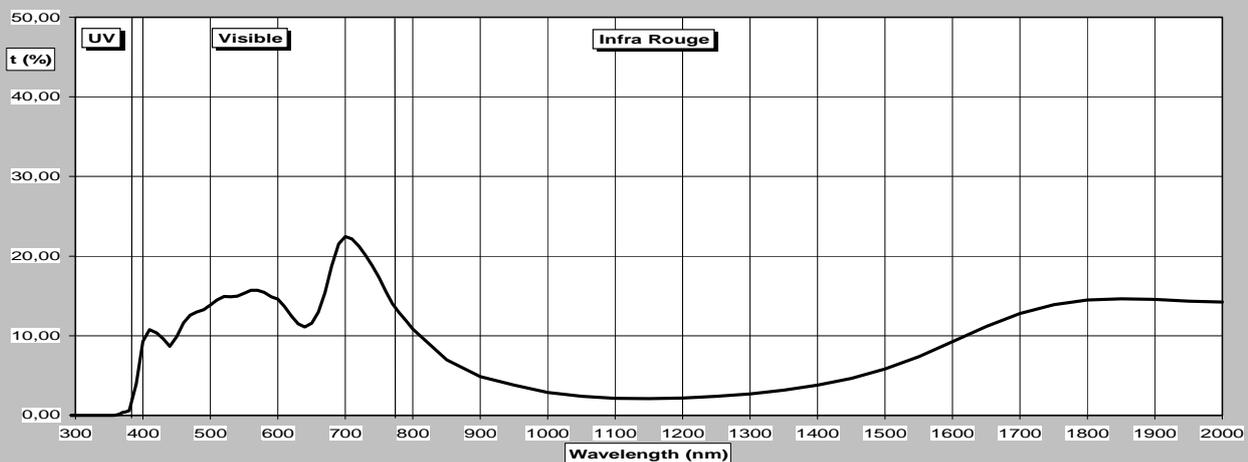
ISO 14889 **Pass**  
 ANSI Z80-3 **Pass**  
 AS 1067.1 **Pass**

**COATING & TEMPERING**

(See also notes below)

Vacuum coating **YES**  
 Chemical tempering **YES**  
 Air tempering **YES**

**Transmission Curve : FUMO 15 - Code 8219**



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**Chemtempering :**

Recommended bath and cycle :

<b>Bath :</b>	Potassium Nitrate	<b>99.5 %</b>	(Sodium nitrate 0,5% max)	Time :	<b>16 Hr</b>
	Silicic Acid	<b>0.5 %</b>		$\theta$ °C :	<b>450 °C</b>

**Air tempering :**

Air tempering using conventional processes for standard crown glasses. Minimum lens thickness for normal air tempered lenses is 2 mm.

**Coatings :**

Vacuum coatings for coloring, antireflexion or mirror are possible.

**Compatible Bariums :**

This glass can not be used to manufacture fused multifocal lenses.  
There is no compatible bariums to be fused with this glass

**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.