



# POTAPENKO GLASS & FILTERS

(POTAPENKO S.V.).

c/o Mr. Serge Potapenko Tolstoy St. 10-22. Izum Ukraine. 64300.  
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Reg No: 2474017000003077. VAT 2407300057.

## DATA SHEET # 755-275-477

### GLASS TF5 (Si-Pb)

#### GLASS ATTRIBUTES:

		<u>Lambda, nm</u>	
Formula	silicate plumbum		Si-Pb
System	glass structure		amorphous
PbO	wt %		66.04
SiO <sub>2</sub>	wt %		30.87
K <sub>2</sub> O	wt %		2.64
Trace element	wt %		0.45
Fe, Co, Ni, Cr, Cu			none
Colour	clear glass		none
Catalogue thickness	mm		10
Transmittance	max %	550	99.6
Transmittance	aver %	VIS	94.3

#### OPTIC ATTRIBUTES:

		<u>Lambda, nm</u>	
Index	n <sub>365.00</sub>	365.00	1.83360
	n <sub>404.66</sub>	404.66	1.80608
	n <sub>435.83</sub>	435.83	1.79134
	n <sub>479.99</sub>	479.99	1.77643
	n <sub>486.13</sub>	486.13	1.77475
	n <sub>546.07</sub>	546.07	1.76171
	n <sub>587.56</sub>	587.56	1.75523
	n <sub>589.29</sub>	589.29	1.75500
	n <sub>643.85</sub>	643.85	1.74855
	n <sub>656.27</sub>	656.27	1.74732
	n <sub>706.52</sub>	706.52	1.70430
	n <sub>768.20</sub>	768.20	1.73886
	n <sub>852.10</sub>	852.10	1.73457
	n <sub>1013.9</sub>	1013.9	1.72888
	n <sub>1128.6</sub>	1128.6	1.72601
	n <sub>1395.1</sub>	1395.1	1.72107
	n <sub>1529.6</sub>	1529.6	1.71903
n <sub>1813.1</sub>	1813.1	1.71508	
Transmittance	T <sub>360</sub>	360	0.063
	T <sub>380</sub>	380	0.444
	T <sub>400</sub>	400	0.822
	T <sub>420</sub>	420	0.904
	T <sub>440</sub>	440	0.956
	T <sub>460</sub>	460	0.975
	T <sub>480</sub>	480	0.985
	T <sub>500</sub>	500	0.990
	T <sub>520</sub>	520	0.994
	T <sub>540</sub>	540	0.995
	T <sub>560</sub>	560	0.996
	T <sub>580</sub>	580	0.995
	T <sub>600</sub>	600	0.995
	T <sub>620</sub>	620	0.993
	T <sub>640</sub>	640	0.993
	T <sub>660</sub>	660	0.993
	T <sub>680</sub>	680	0.994
	T <sub>700</sub>	700	0.995
	T <sub>750</sub>	750	0.997
T <sub>800</sub>	800	0.997	
T <sub>900</sub>	900	0.997	



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### GLASS TF5 (Si-Pb)

#### MECHANIC ATTRIBUTES:

Specific gravity	g/cm <sup>3</sup>	4.67
Grindability	HG	3
Knoop hardness	KH	322.00
Photoelastic coeff.	nm/cm · 10 <sup>-3</sup> , Pa	1.50

#### THERMIC ATTRIBUTES:

Transformation temperature (Tg)	°C	440
Expansion coeff.	10 <sup>-7</sup> °C	82

#### CHEMIC ATTRIBUTES:

Climatic resistance	Gost Standard Method	standard
Stain resistance	Gost Standard Method	standard
Acid resistance	Gost Standard Method	standard

#### OTHER ATTRIBUTES:

Lambda, nm

##### Workmanship (ST): standard grade

Index tolerance	$\Delta n$	±0.001
Transmittance Homogeneity (TH)at 10mm	%	10
Stress birefringence (SB)	nm/cm	10
Visible stria (VS)	grade	3
Visible bubbles & inclusions (VB)	grade	4
Farbe code (FC)	$\lambda_{80\%}/\lambda_{5\%}$	40/36

##### Workmanship (SE): extra standard grade

Index tolerance	$\Delta n$	±0.0005
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#### RESUME:

The special glass due to PbO plumbum oxide wt.% 66.04 is around 100% x-ray absorption. The x-ray absorption percentage is equal to a glass thickness. Actually, the x-ray bar for window in a medical or industrial radiology rooms is allows review of a radiographic-procedure room. The shielding requirement should be determined by your qualified physicist.

The glass specification is Ukrainian Optical Industrial Standard: GOST-3514.

The glass is typified as follows TF5 plumbic glass.