

PHYSICAL DATA:	FIOLAX <sup>®</sup> -clear	FIOLAX <sup>®</sup> -amber	ILLAX <sup>®</sup>	AR-Glas <sup>®</sup>
Medium coefficient of linear expansion between 20 and 300 °C $\alpha_{20/300} [10^{-6} \cdot K^{-1}]$	4.9	5.5	7.7	9.1
Transformation Temperature $T_g [^{\circ}C]$	565	550	530	525
Temperature $T [^{\circ}C]$ of the glass at viscosity $\eta [dPa \cdot s]$				
$10^{13}$ upper annealing temperature	565	560	532	530
$10^{7.6}$ softening point	782	770	718	715
$10^4$ working temperature	1165	1155	1058	1040
Refractive index $n_d$ ( $\lambda = 587.6 \text{ nm}$ )	1.492	1.523	1.521	1.514
Density $\rho [g \cdot cm^{-3}]$	2.34	2.42	2.50	2.50

CHEMICAL DATA:	FIOLAX <sup>®</sup> -clear	FIOLAX <sup>®</sup> -amber	ILLAX <sup>®</sup>	AR-Glas <sup>®</sup>
Main components [approx. weight %]				
SiO <sub>2</sub>	75	70	67	69
B <sub>2</sub> O <sub>3</sub>	10.5	7	5	1
Al <sub>2</sub> O <sub>3</sub>	5	6	7	4
Fe <sub>2</sub> O <sub>3</sub>	-	1	2	-
Na <sub>2</sub> O	7	7	12	13
K <sub>2</sub> O	-	1	1	3
BaO	≪1	2	<0.5	2
CaO	1.5	<1	1	5
MgO	-	-	-	3
TiO <sub>2</sub>	-	5	-	-
MnO <sub>2</sub>	-	-	5	-
Water Resistance acc. DIN ISO 719	1	1	2	3
Acid Resistance acc. DIN 12 116	1	2	2	1
Alkali Resistance acc. ISO 695	2	2	2	2

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 Technical Terms of Supply for Special Glass Tubing  
 for the Manufacture of Pharmaceutical Containers

