

Glass designation :	QE	Code	8092
Color :	White		
Glass type :	Chemtemperable, crown glass		
Application :	Molds for organic ophtalmic lenses		

<u>PHYSICAL PROPERTIES</u>			
Density :	2.62	g/cm3	
Linear Exp. Coef. :	95	$10^{-7}/^{\circ}\text{C}$	
Viscosity :	Soft. Pt	735	$^{\circ}\text{C}$
	Ann. Pt	545	$^{\circ}\text{C}$
	Strain Pt	505	$^{\circ}\text{C}$

<u>REFRACTIVE PROPERTIES</u>		
Refractive index	nd	1.5231
Abbe number	vd	57.1
<u>TRANSMISSION PROPERTIES (2 mm)</u>		
Luminous transmission factor		91.5%

CHEMICAL DURABILITY (class)	To water	NF ISO 719	HGB3
	To acid	DIN 12-116	3
	To alkalis	ISO 695	A2

CHEMTEMPERING			
<p>The chemtempering process builds up a compressive stress at the surface of the piece through ion exchanges between the glass and the salts bath.</p> <p>The amount of compressive stress and the depth of the compressed layer are the two parameters that determine the mechanical resistance of the molds :</p> <ul style="list-style-type: none"> - Maximized depth of layer (DOL) insure longer mold life (ie: serviceability) as it reduce the negative impact of damaged surfaces. - Higher compression shall enhance break resistance. <p>The balance between these two parameters depends on processing conditions.</p>			
Recommended bath and cycle :			
Bath :	Potassium Nitrate	99.5 %	(Sodium nitrate 0.5% max)
	Silicic Acid	0.5 %	
Time :	16 Hr	D.O.L. (μm)	Compression PSI
θ $^{\circ}\text{C}$:	450 $^{\circ}\text{C}$	90	53000
<p>Longer time cycle, or higher processing temperature, will produce larger D.O.L. but decrease compression.</p>			
Short schedule :			
<p>Short chemtempering schedules may be found appropriate, although they lead to reduce D.O.L., wich may translate into reduced molds serviceability.</p> <p>Typical performances are as follow :</p>			
Time :	4 Hr	D.O.L. (μm)	Compression PSI
θ $^{\circ}\text{C}$:	450 $^{\circ}\text{C}$	55	50000

SPECIAL APPLICATION
For fused bifocal molds application, a specific version of this glass is available under GLASS CODE 8092 F