

# Specialty Glass Products Technical Reference Document

07/12

## High Ion-Exchange (HIE)

Glass produced using a High Ion Exchange (HIE) process is stronger and more durable than non HIE glass substrates. Abrisa Technologies currently distributes, fabricates and can apply coatings to three major manufactured HIE brands of glass; Asahi Dragontrail™., Corning® Gorilla® and Glass, Schott Xensation.

**Asahi Glass Corporation (AGC) Dragontrail™** - Is an ideal glass for chemical strengthening via High Ion-Exchange process for use as cover glass for portable equipment such as smart phones, tablet PCs, and more.

## Characteristics in comparison to Soda-lime glass

- Scratch resistant
- Scratches are less noticeable
- Crack resistant should scratches occur  
(Chemically strengthened Dragontrail™ is much stronger than conventional soda-lime glass)
- Dragontrail™ is manufactured using the float process, ideal for mass-production insuring stable supply

## Dimensional Availability

- Thicknesses — ranging from 0.55 to over 5.0 mm, sizes stocked are 0.8 and 1.1 mm - consult factory for other thickness requirements. (877) 622-7472
- Sheet size — 48" x 29" standard, custom sizes may be available upon request

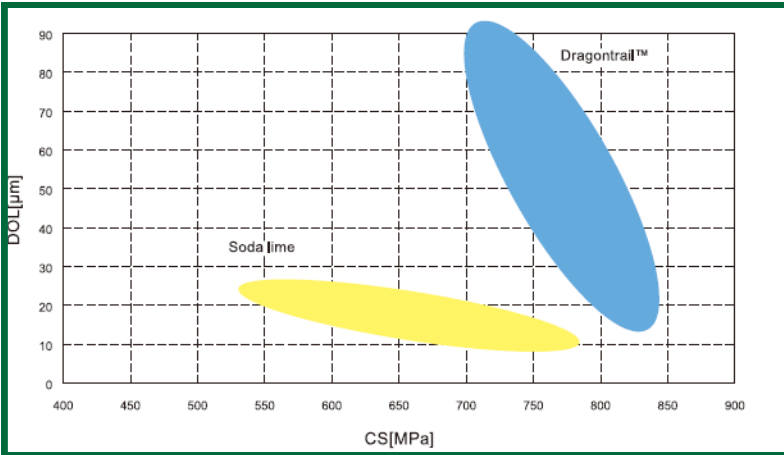
## Properties

Property		Dragontrail™	Soda lime
<b>Mechanical property</b>	Density(g/cm <sup>3</sup> )	2.48	2.50
	Young's Modulus(GPa)	74	73
	Shear Modulus(GPa)	30	30
	Poisson's Ratio	0.23	0.21
	Vickers hardness(before CT)	595	533
	Vickers hardness(after CT)	673	580
<b>Thermal property</b>	CTE(50-350°C × 10 <sup>-7</sup> /°C)	98	85
	Tg(°C)	604	550
	Softening Point(°C)	831	733
	Annealing Point(°C)	606	554
	Strain Point(°C)	556	511
<b>Optical property</b>	Refraction Index(Nd)	1.51	1.52
	Photoelastic constant(nm/cm Mpa)	28.3	25.6
<b>Electrical property</b>	Volume Resistivity(log(Ω·cm))	8.4	8.5

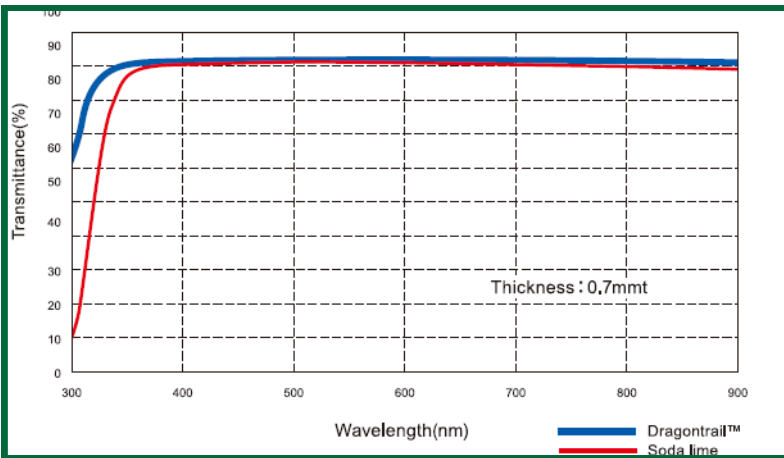
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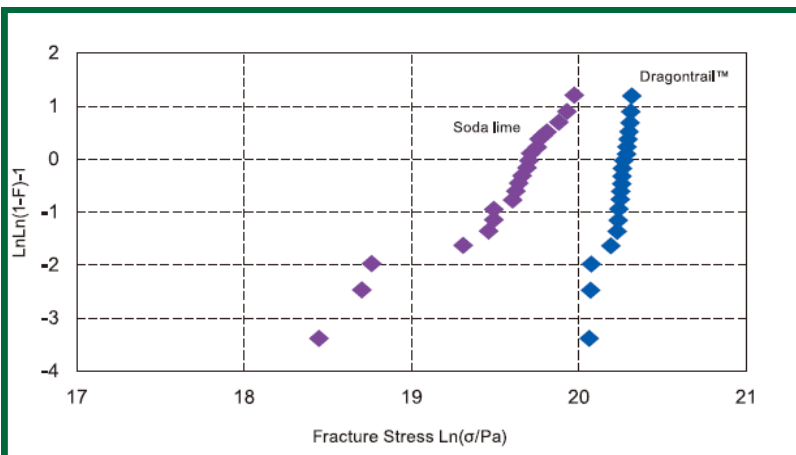
Asahi Glass Corporation (AGC) Dragontrail™ (cont.)



## C/S Characteristics



## Optical Transmittance



## Three-Point Bending Result