MAKROCLEAR™ FA

MAKROCLEAR™ FA is transparent polycarbonate sheet. The product has high clarity and surface quality ideal to replace Glass in food contact applications. The product is virtually unbreakable with extremely high impact resistance and offers high temperature performance too.

MAKROCLEAR™ FA provides designers with possibilities to use transparent polycarbonate sheets in applications where high clarity and optical performance is required. The consistent high quality demands from the market helps to improve machining, screen printability and thermoformability

MAKROCLEAR™ FA is an extruded polycarbonate sheet made from a special resin complying with food contact regulations governed by the US Food and Drug Administration and EC Directive. Sawing and forming can be performed by using the same methods as for standard polycarbonate.

MAKROCLEAR™ FA BENEFITS:

- Food approval
- Resistance to high temperature
- Half the weight of glass
- High impact strength
- Easy to thermoform or fabricate

APPLICATION AREAS:

MAKROCLEAR™ FA is the right choice for food packaging and applications where the product will come in direct contact with food, such as displays and boxes.

DELIVERY PROGRAM:

Standard size: 2050 x 3050 mm

Thickness range: 0,8 – 12 mm

Colour: Clear

Embossing: TEX™, Grain 35, ANTI-REFLEX™

Special sizes and thicknesses on request

Version 2020-04-07

MAKROCLEAR™ FA TECHNICAL SPECIFICATIONS

Property	Value	Unit	Standard
Physical properties			
Density	1,2	g/cm^3	ISO 1183
Refractive index (20 °C)	1,586		ISO 489
Moisture absorption 24 hours, 23 °C, 50% RH	0,15	%	ISO 62
Mechanical properties			
Tensile strength at yield (at break)	60 (70)	N/mm^2	ISO 527
Elongation at yield (at break)	6 (110)	%	ISO 527
Elastic modulus	>2300	N/mm^2	ISO 527
Flexural modulus	>2300	N/mm^2	ISO 178
Charpy unnotched impact strength -40 °C	NB	kJ/m^2	ISO 179/1eU
Charpy notched impact strength -30 °C	11	kJ/m^2	ISO 179/1eA
Izod notched impact strength +23 °C	65	kJ/m^2	ISO 180/1A
Izod notched impact strength -30 °C	10	kJ/m^2	ISO 180/1A
Thermal properties			
Linear coefficient of thermal expansion (20-70 °C)	$65x10^{-6}$	K^{-1}	ISO 11359-2
Heat deflection temperature, HDT A (1,80 N/mm^2)	132	°C	ISO 75
Heat deflection temperature, HDT B (0,45 N/mm^2)	142	°C	ISO 75
Vicat temperature VST/B 120	149	°C	ISO 306
Vicat temperature VST/B 50	148	°C	ISO 306
Thermal conductivity	0,20	W/m.K	DIN 8302
Electrical properties			
Volume resistivity, dry	$>10^{14}$	Ω . m	IEC 62631
Surface resistivity, dry	10^{16}	Ω	IEC 62631
Dielectric strength, dry	30	kV/mm	IEC 60243
Dielectric constant, dry 50 Hz	3		IEC 62631
Dielectric constant, dry 1 MHz	2,9		IEC 62631
Dissipation factor (tan δ), dry 50 Hz	0,001		IEC 62631
Dissipation factor (tan δ), dry 1 MHz	0,01		IEC 62631

Arla Plast AB • BOX 33, Västanåvägen • SE 590 30 Borensberg • Sweden
Phone +46 141 20 38 00 • Fax +46 141 414 30 • E-mail: info@arlaplast.se • www.arlaplast.com

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www.arlaplast.com