BARLO® XT& High Impact

Technical datasheet

BARLO® XT

BARLO XT & BARLO XT HIGH IMPACT

1. PRODUCT IDENTIFICATION

BARLO XT is the brand name for extruded Polymethyl methacrylate sheets from Quinn Plastics, standard or high impact.
The BARLO XT and High Impact programme offers solutions to both indoor and outdoor applications.
As a result of the extrusion process, Quinn Plastics can offer a variety of colours and designs.

2. CHARACTERISTICS

- Good optical properties
- Brilliant surface
- Easy to fabricate, to vacuum form
- Show an exceptional high light transmission
- Good scratch resistance for the standard grade
- High surface hardness for the standard grade
- Good recyclability
- XT and XT High Impact meet all current European food contact legislation and can be used in contact with foodstuffs
- Excellent transparency

3. APPLICATIONS

Constructional components
- Light domes
- Partition walls
- Door glazing
- Roofing
- Roof hoods for caravans

Lighting
- Covers for lighting
- Coffered lighting
- Kitchen lighting
- Illuminated plates

Engineering components·
- Housing
- Machine covers

Advertising and decoration materials
- Letters
- Decorations
- Displays
- Advertising fittings
- Advertising panels

Other applications
- Containers
- Lettering templates
- Sign equipment etc.
- Solariums UVT (UV-translucent grade)

4. FABRICATION AND FINISHING TECHNIQUES

BARLO XT and BARLO XT High Impact sheets are easy to handle.
They can be machined using all the usual methods, such as sawing, milling, drilling, turning, grinding and polishing, and are most suitable for thermoforming.
More detailed information on these items can be found in the “USER GUIDE”, available on request.

5. TECHNICAL DATA

PROPERTY	METHOD	UNIT	BARLO XT	BARLO XT 630	BARLO XT 620	BARLO XT 610
GENERAL PROPERTIES						
Density	ISO 1183	g/cm³	1,19	1.17	1.16	1.15
Water absorption 24h/23°C- 50x50x 4mm³	DIN 53 495 Method 1	%	0.2	0.25	0.3	0.3
Ball indentation hardness	ISO 2039-1	MPa	235	155	135	100
Forming temperature - air pressure		°C	140-160	130-150	130-150	130-150
Forming temperature - vacuum		°C	160-190	140-170	140-170	140-170
Moulding shrinkage		%	0.5-0.8	0.6-0.9	0.6-0.9	0.6-0.9
MECHANICAL PROPERTIES						
Tensile strength	ISO 527-2	MPa	70	55	50	40
Elongation at break	ISO 527-2	%	4	15	25	35
Tensile modulus	ISO 527-2	MPa	3200	2400	2100	1800
Flexural strength	ISO 178	MPa	115	90	85	65
Flexural modulus	ISO 178	MPa	3300	2400	2100	1800
Impact strength Charpy unnotched	ISO 179-1	KJ/m²	17	25	35	60
Impact strength Charpy notched	ISO 179-1	KJ/m²	2	3	4	5
THERMAL PROPERTIES						
Vicat temperature (B 50)*	ISO 306	°C	105	104	102	98
Specific Heat capacity	IEC 1006	J/gK	1.47	1.5	1.5	1.5
Linear thermal expansion	DIN 53752	$K^{-1}x10^{-5}$	7	9.5	10	11
Thermal conductivity	DIN 52612	W/mK	0.18	0.18	0.18	0.18
Service temperature - continuous use		°C	70	65	65	65
Max. temperature - short term use		°C	90	85	80	75
Degradation temperature	-	°C	>280	>280	>280	>280
OPTICAL PROPERTIES						
Light transmission (3mm)	DIN 5036-3	%	92	91	91	90
Refractive index	ISO 489	n_D	1.492	1.492	1.492	1.492
ELECTRICAL PROPERTIES						
Surface resistivity	IEC 60093	Ω	$3x10^{15}$-$3x10^{16}$	-	-	-
Volume resistivity	IEC 60093	Ωxm	$1x10^{13}$-$5x10^{13}$	-	-	-
Electrical strength	IEC 60243-1	KV/mm	10	-	-	-
Dielectrical dissipation factor 50Hz	DIN 53483-2		0.06	-	-	-
Dielectrical dissipation Factor 1KHz	DIN 53483-2		0.04	-	-	-
Dielectrical dissipation Factor 1MHz	DIN 53483-2		0.02	0.03	0.03	0.03
Relative permittivity 50 Hz	DIN 53483-2		2.7	-	-	-
Relative permittivity 1 KHz	DIN 53483-2		3.1	-	-	-
Relative permittivity 1MHz	DIN 53483-2		2.7	2.9	2.9	2.9

RESISTANCE TO CHEMICALS

BARLO XT and High Impact sheets are – at room temperature – resistant to saturated hydrocarbons, aromatic free carburettor fuel and mineral oils, vegetable and animal fats and oils, water, aqueous salt solutions as well as diluted acids and alkalis. Aromatic hydrocarbons and hydrogen chlorides, ester, ether and ketones attack BARLO XT and XT High Impact

* pre-treatment 16 h at 80 °C