PLASIAX™ DIAMOND

HARD COAT POLYCARBONATE

DESCRIPTION

Plasiax™ Diamond hard coat polycarbonate sheets are coated on both sides to give a relatively scratch resistant finish compared to uncoated polycarbonate sheet. The added advantage is that if paint or grease is inadvertently sprayed or applied on to the sheets it can be removed easily.

PROPERTY	METHOD	UNITS	Plasiax™ Diamond HC
OPTICAL			
Light transmission (3mm)	DIN 5036-3	%	87
MECHANICAL			
Flexural modulus	ISO 178	MPa	-
Flexural strength	ISO 178	MPa	95
Tensile modulus	ISO 527-2	MPa	2300
Tensile strength at yield	ISO 527-2	MPa	60
Elongation at break	ISO 527-2	%	80
Taber abrasion test	DIN 52347 ASTM D1003	%ΔHaze	< 1.0
Scratch resistant - steel wool test	RPM 315	Kg	>5
Erichsen scratch resistance	DIN 53799	N	0.2
Cross cut test	ISO2409	-	0
Cross cut test after boiling (1h/95°C)	ISO2409	-	0
THERMAL			
Vicat temp. (VST/B 50)	ISO 306	°C	145 (150)[1]
Thermal conductivity	DIN 52612	W/mK	0.2
Max. service temperature continuous use	-	°C	115
IMPACT STRENGTH			
Izod (notched)	ISO 180	kJ/m^2	-
Charpy (notched)	ISO 179	kJ/m^2	10
Charpy (unnotched)	ISO 179		No Break
ELECTRICAL			
Volume resistivity	DIN 53482	Ω.cm	10^{16}
Dielectric strength	DIN 53481	Ω	>30

APPLICATIONS

- Bus shelters
- Riot shields
- Machine guards
- Safety glazing
- Protective visors/screens
- Train windows
- Prison vision panels
- Protection of display from graffiti
- Balustrades
- Roof glazing
- Anti-vandal glazing
- Sound barriers
- Sports barriers

CHARACTERISTICS

- High impact resistance and virtually unbreakable
- Increased abrasion, chemical and solvent resistance
- Easy to recycle
- Excellent mechanical, thermal and electrical properties
- Good optical properties
- Enhanced weathering resistance
- The coated sheet cannot be cold bent or thermoformed

FABRICATION AND FINISHING TECHNIQUES

Plasiax™ Diamond hard coat polycarbonate is easy to handle. Milling drilling, tapping, sawing, shearing and punching, die cutting, routing as well as welding do not generate any problems.

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IMPROVED CHEMICAL RESISTANCE

EXPOSURE TIME 24h at room temperature optical evaluation	Plasiax™ Diamond PC SR
Acetone	+
Methanol	+
Chloroform	+
Ethyl acetate	+
Toluene	+
n-Hexane	+
Hydrochloric acid 5%	(+)
Sodium hydroxide 20%	-
Ammonium hydroxide 10%	+

+ Resistant **(+) Limited resistance** **- Not resistant**

IMPROVED WEATHERING RESISTANCE

EXPOSURE TIME 1000h accelerated weathering test (QUV-B test ISO 4892-3)	Plasiax™ Diamond PC SR
Yellowness index ASTM D-1925	-1