TECHNICAL DATASHEET

POLYCASA PC scratch resistant

1. PRODUCT IDENTIFICATION

POLYCASA PC is the brand name for extruded Polycarbonate sheet produced by POLYCASA in accordance to ISO 11963/DIN 16801.

POLYCASA PC 'scratch resistant' sheets are coated on both sides or on one side only 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.

2. 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

3. APPLICATIONS

- Automobile glazing (side windows)
- Glazing of buildings
- Machine safety guards
- Factory partition walls
- Glazing for ice rinks
- Sports stadiums and arena partitioning

4. FABRICATION AND FINISHING TECHNIQUES

POLYCASA PC 'scratch resistant'sheets are easy to handle.
Milling drilling, tapping, sawing, shearing and punching, die cutting, routing as well as welding do not generate any problems.
More detailed information on fabrication and finishing techniques for PC can be found in the "USER GUIDE", available on request.

POLYCASA PC scratch resistant

5. TECHNICAL INFORMATION

OPTICAL

Property	Method	Units	POLYCASA PC SR
Light transmission (3 mm)	DIN 5036-3	%	87

MECHANICAL

Property	Method	Units	POLYCASA PC SR
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	%⊿Haze	< 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

Property	Method	Units	POLYCASA PC SR
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 STRENGHTS

Property	Method	Units	POLYCASA PC SR
Izod (notched)	ISO 180	kJ/m^2	-
Charpy (notched)	ISO 179	kJ/m^2	10
Charpy (unnotched)	ISO 179		No Break

ELECTRICAL

Property	Method	Units	POLYCASA PC SR
Volume Resistivity	DIN 53482	Ω.cm	10^{16}
Dielectric strength	DIN 53481	Ω	>30

[1] QUINN PC 'scratch resistant' coated sheet side

6. IMPROVED CHEMICAL RESISTANCE

Exposure time 24 h at room temperature optical evaluation	POLYCASA PC	POLYCASA PC SR[2]
Acetone	-	+
Methanol	+	+
Chloroform	-	+
Ethyl acetate	-	+
Toluene	-	+
n-Hexane	+	+
Hydrochloric acid 5%	+	(+)
Sodium hydroxide 20%	-	-
Ammonium hydroxide 10%	+	+

\+ Resistant

(+) Limited resistance

\- Not resistant

7. IMPROVED WEATHERING RESISTANCE

Exposure time 1000 h accelerated weathering test (QUV-B test ISO 4892-3)	POLYCASA PC	POLYCASA PC SR[3]
Yellowness index ASTM D-1925	3	-1

[2] QUINN PC SR coated sheet side
[3] QUINN PC SR with UVP coex layer