INFORMATII TEHNICE

Policarbonat compact

QUINN PC
ENGLISH

Advantages of QUINN PC and QUINN PC UVP to glass

■ **At the same thickness:**

- Improvement of the K-value
- Unbreakable
- Weight saving

Single glazing

- Improvement K-value:
  Glass 5 mm: K-value = 5.74 W/m²°C
  QUINN PC 5 mm: K-value = 5.16 W/m²°C
  ΔK-value = 0.58 W/m²°C = 10.1%
- Weight saving
  Glass 5 mm: 12.5 kg/m²
  QUINN PC 5 mm: 6.00 kg/m²
  Δ = 6.50 kg/m² = 52.0%

Double glazing

- Improvement K-value
  2 x glass 4 mm with air gap 5 mm: K-value = 3.57 W/m²°C
  2 x QUINN PC 4 mm with air gap 5 mm: K-value = 3.25 W/m²°C
  ΔK-value = 0.32 W/m²°C = 9.0%
- Weight saving
  2 x glass 4 mm: 20.0 kg/m²
  2 x QUINN PC 4 mm: 9.6 kg/m²
  Δ = 10.4 kg/m² = 52.0%

■ **At the same K-value:**

- Weight saving
- Unbreakable
- Volume saving

Single glazing

Glass 10 mm: K-value = 5.60 W/m²°C
QUINN PC 2 mm: K-value = 5.57 W/m²°C

- Weight saving
  Glass 10 mm: 25.0 kg/m²
  QUINN PC 2 mm: 2.40 kg/m²
  Δ = 22.6 kg/m² = 90.4%
- Volume saving
  Δ = 8 mm

Double glazing

2 x glass 5 mm with 15 mm air: K-value = 3.05 W/m²°C
2 x QUINN PC 3 mm with 10 mm air: K-value = 3.05 W/m²°C

- Weight saving
  Glass 2 x 5 mm 25.0 kg/m²
  QUINN PC 2 x 3 mm: 7.2 kg/m²
  Δ = 17.8 kg/m² = 71.2%
- Volume saving
  Glass 2 x 5 + 15: 25 mm
  QUINN PC 2 x 3 + 10: 16 mm
  Δ = 9 mm

K (u)-values for customer specific glazing systems can be provided upon request. For more information contact your local Quinn Plastics sales office.

6. Technical information

6.1. Technical data sheet

■ GENERAL			
Property	**Method**	**Units**	**QUINN PC + QUINN PC UVP**
Density	ISO 1183	g/cm³	1.2
Rockwell Hardness	D-78	M-scale	-
■ OPTICAL			
Property	**Method**	**Units**	**QUINN PC + QUINN PC UVP**
Light Transmission	DIN 5036	%	86
Refractive Index	T3	n^{D}_{20}	1. 585
■ MECHANICAL			
Property	**Method**	**Units**	**QUINN PC + QUINN PC UVP**
Flexural Modulus	ISO 489	MPa	-
Flexural Strength	ISO 178	MPa	>95
Tensile Modulus	ISO 527	MPa	2200
Tensile Strength	ISO 527	MPa	60
Elongation	ISO 527	%	80
■ THERMAL			
Property	**Method**	**Units**	**QUINN PC + QUINN PC UVP**
Vicat Temp. (VST/A 50)	ISO 306	°C	145
Heat Deflection Temp. (A)	ISO R75	°C	135
Specific Heat Capacity	-	J/gK	1.17
Coefficient of linear thermal expansion	DIN 53328	$K^{-1}x10^{-5}$	6.5
Thermal conductivity	DIN 52612	W/mK	0.2
Degradation temperature		°C	>280
Max. service temperature continuous use		°C	115
Max service temperature short term use		°C	130
Sheet forming temp. range		°C	180-210
■ IMPACT STRENGTHS			
Property	**Method**	**Units**	**QUINN PC + QUINN PC UVP**
Izod (notched)	ISO 180	kJ/m²	-
Charpy (notched)	ISO 179	kJ/m²	>40
Charpy (unnotched)	ISO 179	kJ/m²	NB
■ ELECTRICAL			
Property	**Method**	**Units**	**QUINN PC + QUINN PC UVP**
Dielectric constant 50 HZ	DIN 53483		3.0
Volume Resistivity	DIN 53482	Ω.cm	10^{15}
Surface Resistivity	DIN 53482	Ω	10^{15}
Dielectric strength	DIN 53481	kV/mm	>30
Dissipation Factor (50 HZ)	DIN 53483		8×10^{-4}

Resistance to chemicals

QUINN PC and QUINN PC UVP sheets are resistant to mineral acids up to higher concentrations, many organic acids (e.g. carbonic, lactic, oleic and citric acids), oxidation and reduction substances, neutral and acidic saline solutions, a range of fats and oils, saturated aliphatic and cyclo-aliphatic hydrocarbons and alcohols, except for methyl alcohol. QUINN PC and QUINN PC UVP sheets can be destroyed with alkalis, ammonia and their solutions, and amines. QUINN PC and QUINN PC UVP sheets can be dissolved by a large number of solvents. Organic compounds such as benzene, acetone and carbon tetrachloride make them swell. If you have any queries, please contact your Quinn Plastics distributor or local sales office.

Chemical resistance at 20°C

Acetone	-	Glycols	+
Acids (weak solution)	+	Glycerine	+
Alcohols		Hexane	+
Ethyl	+	Methylenechloride	-
Isopropyl	0	Methylethylketone	-
Methyl	-	Mineral Oil	+
Ammonia (weak solution)	-	Paraffin	+
Benzene	-	Toluene	-
Carbon tetrachloride	-	Sodium Chloride (aq)	+
Chloroform	-	Sodium Hydroxide (aq)	-
Ethyl Acetate	-		

\- Attacked
0 Restricted
\+ Not attacked

6.2. Product range QUINN PC and QUINN PC UVP

QUINN PC and QUINN PC UVP sheets are protected on both sides with a PE-film, except patterned sheets, which are only protected on the smooth underside.

Thickness range for:

- QUINN PC standard version
  From 1.00 mm up to 15 mm
  Standard thicknesses 1-1.5-2-3-4-5-6-8-10-12 and 15 mm
- QUINN PC UVP version
  From 2.00 mm up to 12 mm
  Standard thicknesses 2-3-4-5-6-8-10-12 mm

Widths cut on line

Max 1250 mm	for 1 and 1.5 mm
Max 2050 mm	from 2 mm up to 15 mm

Standard lengths cut on line

Min 1000 mm	
2050 mm	for thicknesses < 2 mm
3050 mm	for thicknesses > 2 mm (over lengths on special request)

Thickness tolerances

2.0 mm - 3.0 mm	± 10%
4.0 mm up to 15 mm	± 5%

Cut on line tolerances for standard sizes

> 1000 mm	- 0 + 3‰ (3 mm per 1000 mm)
< 1000 mm	on application

TECHNICAL INFORMATION

QUINN PC

ENGLISH

- **Cut to size tolerances**
  ± 1.00 mm
- **Minimum production runs for**

Special thicknesses in clear	7.500 kg
Special colours	15.000 kg

- **Shrinkage**

Thickness 1.5 - 2.5 mm	max. 6%
Thickness 3.0 - 15.0 mm	max. 3%

Other thicknesses, sizes and tolerances on request.
For the standard stock programme see our product selector brochure.