

PC Tuff

Hard-Coated Polycarbonate · Mar-Resistant Glazing Grade

ABRASION — TABER

1 - 3% Δhaze

ASTM D1044 · 100 cyc · CS-10F

CHARACTERISTICS

- Hard-coated, mar & abrasion-resistant surface
- Exceptional optical clarity — 92% transmission
- High impact strength — tough polycarbonate
- UV-protected for outdoor durability
- Laminates with glass for security glazing

APPLICATIONS

- Bullet-resistant security glazing
- Machine guards & safety screens
- Transport & vehicle glazing
- Sight glasses & viewing windows
- Signage, displays & light covers

COMPLIANCE 1-Side Hard-Coat · UV Protected · IEC 60695-10-2 Ball Pressure · RoHS · REACH SVHC · ISO 9001:2015

TYPICAL PROPERTIES
All values are typical · ISO / ASTM / IEC methods · derived from LEXAN resin data

PROPERTY	TEST METHOD	VALUE	UNIT
MECHANICAL			
Yield Stress	ISO 527	> 60	MPa
Yield Strain	ISO 527	6	%
Strain @ Break	ISO 527	> 100	%
Tensile Modulus	ISO 527	2300	MPa
Flexural Strength	ISO 178	90	MPa
Flexural Modulus	ISO 178	2300	MPa
SURFACE · ABRASION			
Taber Δhaze (100 cyc)	ASTM D1044	1 - 3	%
Taber Δhaze (500 cyc)	ASTM D1044	5 - 8	%
PHYSICAL			
Density	ISO 1183	1.20	g/cm ³
Water Absorption (24 h)	ISO 62	0.15	%
Water Absorption (sat.)	ISO 62	0.35	%

PROPERTY	TEST METHOD	VALUE	UNIT
OPTICAL			
Light Trans. @ 2 mm	ASTM D1003	92	%
Light Trans. @ 4 mm	ASTM D1003	90	%
Light Trans. @ 6 mm	ASTM D1003	89	%
THERMAL			
Vicat Softening (B/120)	ISO 306	145	°C
HDT @ 1.8 MPa	ISO 75-2	127	°C
Thermal Conductivity	ISO 8302	0.2	W/m·K
CLTE (23-55 °C)	ISO 11359	7×10 ⁻⁵	/°C
Ball Pressure Test	IEC 60695	Pass	
ELECTRICAL			
Volume Resistivity	IEC 60093	> 10 ¹⁵	Ω·cm
Dielectric Strength	IEC 60243	18	kV/mm

NOTES

Property values derived from LEXAN resin data for the sheet product. Tests per ISO / ASTM / IEC methods: yield stress at 50 mm/min and tensile modulus at 1 mm/min (ISO 527); flexural at 2 mm/min (ISO 178); Taber abrasion Δhaze with CS-10F wheel and 500 g load (ASTM D1044); Vicat rate B/120 (ISO 306); HDT flat at 1.8 MPa (ISO 75-2). One-side hard-coated, UV-protected surface for mar and abrasion resistance; intended for FLAT applications only — the coating is not suitable for curved forming. Standard gauges 2.5-12 mm; colours and dimensions on request. Fire performance varies with thickness and colour — details on request. Resin sourced from globally-certified suppliers including SABIC (LEXAN grade family). Values are typical, intended as guide only. Final product suitability must be validated under actual application conditions.

PERFORMANCE PROFILE
1-3% Δhaze

Taber 100 cyc (ASTM D1044)

92% light

Transmission @ 2 mm

145 °C Vicat

High heat resistance

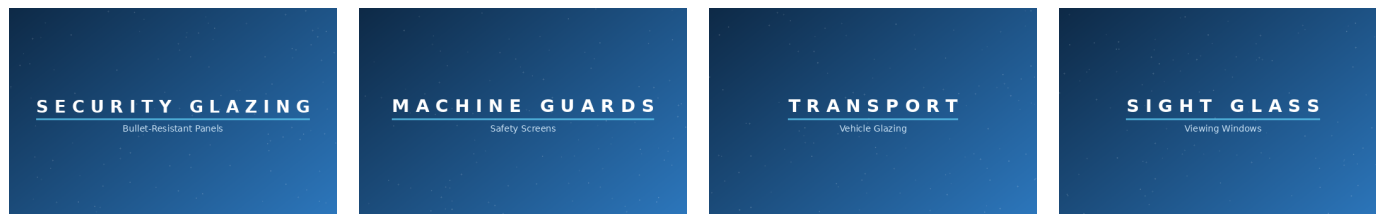
> 100 % strain

Ductile, high impact

Hard-coated PC — optical clarity with mar resistance for demanding glazing.

APPLICATIONS

Where PC Tuff gets specified — hard-coated, optically clear polycarbonate for glazing and protective screens.



Security Glazing

Bullet-resistant security panels laminated with glass. Optically clear, mar-resistant.

Machine Guards

Safety screens and machine guards. Impact-tough with a scratch-resistant surface.

Transport Glazing

Vehicle and transport glazing. UV-protected, abrasion-resistant, high clarity.

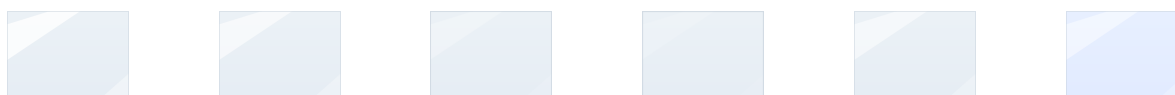
Sight Glass

Sight glasses and viewing windows. Durable, chemical-resistant, easy to clean.

PRODUCTION SPECIFICATIONS

Sheet Thickness	2 - 12 mm	Standard 2.5 - 12 mm glazing gauges
Sheet Width	up to 2050 mm	Glazing panel width
Sheet Length	up to 3 m	Custom cut-to-size on request
Hard-Coat	1-side (std)	2-side and enhanced-UV grades on request
Surface	Mar-resistant	Abrasion & chemical protection
Colour	Clear (std)	Tints & custom colours on request

SURFACE FINISHES



F01
Optical Gloss

F02
Hard-Coat HC

F03
Anti-Glare

F04
Matte

F05
Anti-Fog

F06
UV-Plus

Hard-coat and functional surface options — availability on request.

HOW TO READ THESE NUMBERS

Quick reference for what each test actually tells you about how the sheet behaves.

• Yield Stress

Force before the sheet permanently deforms.

• Strain @ Break

How far it stretches before failing. >100% = very ductile.

• Tensile Modulus

Stiffness in tension. Higher = more rigid.

• Flexural Modulus

Bending stiffness. Higher = more rigid when flexed.

• Taber Δhaze

Haze added by abrasion. Lower = more scratch-resistant.

• Light Transmission

How much light passes through. 92% = glass-like clarity.

• Vicat / HDT

Heat at which it softens (Vicat) or sags (HDT).

• CLTE

How much it expands with heat. Matters for glazing fit.

• Dielectric Strength

Voltage it withstands before breakdown.

• Volume Resistivity

Electrical insulation of the bulk material.

• Hard-Coat

Surface layer that resists scratching and chemicals.

• UV Protection

Built-in resistance to yellowing in sunlight.

STELLAR-EX

Sheet Extrusion Excellence

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