YEVRO
POLYCARBONATE SUPPLY

Structural Multiwall Polycarbonate Sheet

Limited 10-Year Manufacturer's Warranty (UV Performance)

Product Overview

The MULTIWALL IMPACT™ Series is a structural multiwall polycarbonate sheet designed for glazing applications requiring improved thermal insulation, high impact resistance, and light transmission. The multiwall structure enhances rigidity and energy efficiency while maintaining durability in cold-climate environments.

Key Features

- Manufactured from 100% virgin polycarbonate resin (Makrolon® grade)
- Multiwall structure available in twin-wall and X-wall configurations
- Single-side co-extruded UV protection
- Improved thermal insulation compared to solid polycarbonate
- Suitable for interior and exterior glazing applications
  (Makrolon® is a registered trademark of Covestro. Resin origin subject to supplier certification)

Warranty & Intended Use

Limited 10-Year Manufacturer's Warranty applies to UV performance of the sheet material only. Warranty coverage does not extend to installation, system design, or overall project performance. Full warranty terms, conditions, and exclusions are available upon request.

IMPORTANT NOTICE

This Technical Data Sheet provides typical material properties only and is intended for reference purposes. It does not constitute structural design guidance or certification of compliance with building codes. Final product selection, system design, load calculations, and installation details must be reviewed and approved by a licensed professional engineer in accordance with applicable Canadian building codes and local Authority Having Jurisdiction (AHJ) requirements.

Physical Properties

Property	Test Method	Unit	Value
Density	ISO 1183	g/cm^3	1.20
Water Absorption (24h)	ISO 62	%	0.10
Equilibrium	ISO 62	%	0.35
Water Vapour Transmission Rate	ISO 15106-1	$g/(m^2 \cdot 24h)$	15

Mechanical Properties

Property	Test Method	Unit	Value
Tensile Stress, Yield	ISO 527	N/mm^2	60.0
Tensile Modulus	ISO 527	N/mm^2	2300
Tensile Strain, Yield	ISO 527	%	6
Tensile Strain, Break	ISO 527	%	>50
Flexural Stress, Yield	ISO 178	MPa	90
Flexural Modulus	ISO 178	MPa	2300
Izod Impact, Notched 23°C	ISO 180	kJ/m^2	65.0
Elongation at Break	ISO 527-2	%	>80

Impact Strength

Property	Test Method	Unit	Value
Charpy (Notched)	ISO 179	kJ/m^2	>10
Charpy (Unnotched)	ISO 179	kJ/m^2	No Break

Thermal Properties

Property	Test Method	Unit	Value
Vicat Softening Temp (B/120)	DIN EN ISO 306	°C	145.0
Heat Deflection Temp (A/B)	DIN EN ISO R75	°C	135.0
Specific Heat Capacity	-	J/gK	1.17
Coeff. Linear Thermal Expansion	DIN 53328	$K^{-1}x10^{-5}$	6.5
Thermal Conductivity	DIN 52612	W/mK	0.2
Thermal Expansion	DIN 53752	1/°C	7.10^{-5}
Degradation Temperature	-	°C	>280
Max Service Temp (Continuous)	-	°C	115.0
Max Service Temp (Short Term)	-	°C	130.0
Forming Temperature Range	-	°C	170-210
Flammability	EN 13501-1	Class	B-s1, d0 (B1)

Electrical Properties

Property	Test Method	Unit	Value
Dielectric Constant (50Hz)	DIN 53483	-	3.0
Volume Resistivity	DIN 53482	Ω.cm	10^15
Surface Resistivity	DIN 53482	Ω	≥10^15
U-Value (Material Ref)	-	W/m^2K	See Spec Table
Dielectric Strength	DIN 53481	kV/mm	>30
Dissipation Factor (50Hz)	DIN 53483	-	$8x10^{-4}$

Optical Properties

Property	Test Method	Unit	Value
Refraction Index	ISO 489	nD20	1.586
Light Transmission	ASTM D1003	%	See Spec Table

Master Specification Table (Typical Values)

Property	Tolerance	4mm	6mm	8mm	10mm	16mm	20mm
Structure	--	Twin-Wall	Twin-Wall	Twin-Wall	Twin-Wall	X-Wall	X-Wall
Weight	+/- 5%	800 g/m^2	1200 g/m^2	1500 g/m^2	1700 g/m^2	2500 g/m^2	3000 g/m^2
UV Layer (Top)	Min	40 µm	40 µm	40 µm	40 µm	50 µm	50 µm
R-Value (Imperial,Calculated)	(Calc)	R-1.45	R-1.62	R-1.77	R-1.95	R-2.70	R-3.20
U-Value (Metric,Calculated)	+/- 10%	3.9	3.5	3.2	2.9	2.1	1.8
Sound (dB)	+/- 5%	15 dB	17 dB	18 dB	19 dB	21 dB	23 dB
Min Radius	+/- 10%	700 mm	1050 mm	1400 mm	1750 mm	2800 mm	3500 mm
Light (Clear)	+/- 5%	82%	80%	80%	79%	64%	60%
Light (Bronze/Grey)	+/- 5%	35%	35%	35%	35%	20%	20%
Standard Width	-2/+6	2100 mm	2100 mm	2100 mm	2100 mm	2100 mm	2100 mm
Standard Length	-2/+6	6000 mm	6000 mm	6000 mm	6000 mm	6000 mm	6000 mm

R-Values and U-Values are calculated for the sheet material and panel structure only. Actual thermal performance depends on installation method, framing, air sealing, and project-specific conditions. Values are provided for reference purposes and do not represent certified system performance.

Support Spacing (Span Guide)

Thickness	+/- 0.3	4.0 mm	6.0 mm	8.0 mm	10.0 mm	16.0 mm	20.0 mm
mm							

Support spacing and structural design must be determined by the project engineer or installer in accordance with applicable building codes and local conditions.

Yevro Polycarbonate Supply

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