

DESCRIPTION:

VINK Plastics Spain extruded polycarbonate (PC) sheets are manufactured according to ISO 11963:2012 and EN 16240:2013 standards and are suitable for both indoor and outdoor applications in diverse sectors such as construction, automotive, safety, and more.

Our extruded **VINK PC** sheets offer long-lasting performance with high transparency, excellent impact resistance, weathering and ageing durability, UV protection on one or both sides, and are easy and safe to fabricate and handle.

They are available in a wide range of thicknesses, colors, textures, and special finishes to meet the needs of any project.

TYPICAL PROPERTY VALUES

Properties	Method	Units	R8000
General			
Density	ISO 1183	g/cm ³	1.2
Water Absorption	ISO 62 (1)	%	0.15
Mechanical			
Tensile Strength at Yield	ISO 527-2	MPa	60
Elongation at Yield	ISO 527-2	%	6
Elongation at Break	ISO 527-2	%	> 100
Tensile Modulus	ISO 527-2	MPa	2300
Flexural Strength	ISO 178	MPa	90
Flexural Modulus	ISO 178	MPa	2300
Impact Resistance (Charpy unnotched)	ISO 179/1fu	kJ/m ²	No Break
Impact Resistance (Izod notched)	ISO 180/1A	kJ/m ²	> 65
Optical			
Refractive Index	ISO 489		1.585
Light Transmission (thickness dependent)	ASTM D1003	%	81-90
Haze (3 mm transparent sheet)	ASTM D1003	%	< 1
Thermal			
Vicat Softening Temp.(50N)	ISO 306	°C	144
Heat Deflection Temp. (1.82 MPa)	ISO 75-1	°C	130
Coeff. of Linear Thermal Expansion (0-500C)		µm/m°C	6.5
Thermal Conductivity	ASTM C177	W/mK	0.2
Maximum Continuous Service Temp.		°C	85
Maximum Short Time Service Temp.		°C	120
Minimum Continuous Service Temp.		°C	-25
Minimum Short Time Service Temp.		°C	-40
Electrical			
Dielectric Constant (50Hz)	DIN 53483		3.0
Dissipation Factor tanδ (100Hz)	DIN 53483		0.0006
Dissipation Factor tanδ (1 MHz)	DIN 53483		0.009
Volume Resistivity	IEC 60093	Ohm.cm	>10 ¹⁴
Surface Resistivity	IEC 60093	Ohm	>10 ¹⁵



DIMENSIONS

Thickness, mm	Width, mm	Length, mm
0.5 - 19.0	1000, 1220 and 2050	600 - 6000

Sheets are also available cut-to-size according to customer requirements.

TOLERANCES FOR DIMENSIONS

Sheet Thickness, mm	Thickness Tolerances, %	Width Tolerances, mm	Length Tolerances, mm	Diagonals Tolerances, mm	Flatness Tolerances
<1.5	± 8	Sheets cut in production: -0.0 /+3.0	Sheets cut in production: -0.0 /+3.0	Sheets cut in production: Length ≤ 4000 mm - ≤ 2 Length ≥ 4000 mm - ≤ 4	Max allowed bowing - 0.5% from linear dimensions. Max allowed bowing across the width of the sheet - ≤ 5 mm per meter of width. Max allowed bowing along the length of the sheet - ≤ 5 mm per meter of length.
≥ 1.5, < 2.0	± 4				
≥ 2.0, < 15.0	± 3	Sheets cut to size: ± 0.50	Sheets cut to size: ± 0.50	Sheets cut to size: ≤ 0.5	
≥ 15.0, < 19.0	± 5				

OPTICAL QUALITY

Maximum number of faults	
	<ul style="list-style-type: none"> - Black specks of 0.4 mm in size, with a minimum distance between them of 1 meter. - Air bubbles of 0.2 mm in size, with a minimum distance between them of 1 meter. - "Fish eyes" of 1 mm in size, with a maximum 5 items on an area of 0.5 m².

COLORS

VINK PC sheets are naturally colorless and clear, however, pigments can be added to obtain a wide range of tints and colors. The light transmission of **VINK PC** colored sheets varies depending on thickness.

For a list of updated colors, please contact VINK Plastics Technical Support.

DEFINITIONS

SHRINKAGE

After heating, PC extruded sheets will shrink during the cooling process. The shrinkage is higher in the extrusion direction. This characteristic of **VINK PC** should be taken into account when planning the final sheet's dimensions.

Sheet Thickness, mm	Standard Grade	
	Shrinkage M.D**, %	Shrinkage T.D**, %
≥ 1.80, < 2.30	6 - 7	0.5
≥ 2.30, < 3.50	5 - 6	0.5
≥ 3.50, < 4.00	3 - 4	0.5
≥ 4.00, < 6.00	2 - 3	0.5
≥ 6.00	2	0.5

* M.D. - Machine (extrusion) direction

** T.D. - Transverse (perpendicular to extrusion) direction



VINK Plastics Spain S.L.U.

C/. Bosquerons 3, Nave 1. 08170 Montornès del Vallès. Barcelona - Spain

T. +34 935 683 961 | info@vinkplastics.es

www.vinkplastics.es

UV PROTECTION

VINK Plastics Spain polycarbonate sheets provide excellent UV radiation filtering. They completely block harmful UV radiation while allowing the transmission of visible light and part of the IR spectrum. However, polycarbonate itself is not UV-resistant and must be stabilized or protected using UV-absorbing additives.

A coextruded UV protective layer, which is an integral part of the sheet, safeguards the material against degradation caused by solar ultraviolet radiation. The effectiveness of this protection has been confirmed through both field and laboratory durability testing, evaluating Yellowness Index (YI), Light Transmission (LT), and retention of mechanical properties.

All extruded polycarbonate sheets from VINK Plastics Spain are guaranteed against loss of physical, mechanical, and optical properties during the warranty period.

FIRE PERFORMANCE

Polycarbonate (PC) is a thermoplastic; therefore, under intense fire exposure, it will eventually melt and burn. However, PC is considered a self-extinguishing material, meaning it ceases to burn once the flame source is removed.

Unlike other materials, VINK Plastics Spain extruded PC sheets do not release toxic or corrosive gases when burning.

Fire classifications according to thickness and grade:

- HB according to UL94 for thin gauge sheets
- V2 according to UL94 for thicker sheets
- V0 for flame-retardant "F" grades
- B-s1,d0 according to UNE-EN ISO 13501 (specific thicknesses)

NOISE REDUCTION

VINK Plastics Spain extruded PC sheets are widely used as noise reduction barriers along roads and highways and comply with the following standards:

- EN-14388:2005 – Road Traffic Noise Reducing Devices
- EN-1793 – Acoustic Properties
- EN-1794 – Non-Acoustic Properties

CHEMICAL RESISTANCE

VINK Plastics Spain polycarbonate sheets can be safely used with most chemical materials and components. However, certain common substances are not compatible with polycarbonate.

Chemical stability depends on several factors, such as chemical concentration, internal stresses, and exposure temperature. Due to the complexity of chemical compatibility, all materials intended for contact with polycarbonate sheets should always be tested in advance.

ENVIRONMENTAL STRESS CRACKING (ESC)

Environmental Stress Cracking (ESC) results from the combination of mechanical stress and exposure to chemicals. The stress level required for ESC is lower than the normal mechanical failure stress of PC in a chemical-free environment.

Stresses can arise during forming and fabrication, but may be reduced by an annealing process. Improper installation can also induce stresses. Cold-bent sheets under permanent load or sheets subject to cyclic stress (fatigue) are especially susceptible to ESC.



STORAGE

VINK Plastics Spain polycarbonate sheets must be stored with their original protective masking in a dry, shaded, and well-ventilated area, with no exposure to direct sunlight, wind, dust, or hard objects. Avoid storage in locations with excessive heat or near aromatic cleaning solvents.

Sheets should be stored horizontally on their delivery pallets and placed on a soft material (such as cardboard) to prevent damage. Do not store sheets under flexible PVC coverings, as flexible PVC is not compatible with polycarbonate and may cause severe damage to the sheets. Ensure that no pressure is applied to unsupported areas.

CLEANING & MAINTENANCE

VINK Plastics Spain polycarbonate sheets are produced in a clean-room environment and do not require cleaning before use. However, cleaning may be necessary after fabrication, prior to sensitive processes such as vacuum metallization or printing, or for routine maintenance.

For longer service life, sheets should be cleaned with warm, soapy water using a mild liquid detergent. If dirt remains, gently wipe with a soft cloth.

Commercial liquid cleaners may not be compatible with polycarbonate and are not recommended.

Do not use sponges, squeegees, brushes, or sharp tools, as these can damage the UV protective coating or cause surface scratches.

ENVIRONMENTAL ADVANTAGES

VINK Plastics Spain polycarbonate sheets are environmentally friendly. Both the sheets and their polyethylene protective film are fully recyclable. They contain no toxic materials or heavy metals that could cause environmental harm or health risks.

No Ozone Depleting Substances (ODP) are used during production.

Sheets do not release pollutants into the environment during manufacture.

When burning, they do not produce toxic or corrosive gases, and fires can be extinguished with water.

Sheets can be recycled through energy recovery, chemical recycling, or mechanical recycling. Offcuts and scrap are not classified as hazardous waste:

Small quantities may be disposed of as household waste.

Large quantities should be directed to recycling facilities.

HANDLING

VINK Plastics Spain polycarbonate sheets can be cut, sawn, drilled, milled, and bent easily using standard workshop equipment for wood or metal. However, it is always recommended to use tools specifically designed for plastics.

For detailed recommendations on machining, assembling, forming, glazing, and signage installation, refer to the VINK Plastics Spain Guidebook.

COLD BENDING

VINK Plastics Spain sheets are ductile and can be cold-bent in a straight line.

When cold bending the sheets, permanent plastic deformation occurs along the bend line, which reduces the mechanical properties in the bent area. This deformation also induces internal frozen-in stresses, which can lower the chemical resistance and increase susceptibility to Environmental Stress Cracking (ESC). An annealing process may partially restore mechanical and chemical resistance.

Recommended minimum bending angles:

Sheets up to 6 mm: 90°

Sheets up to 12 mm: 135°

Hard-coated sheets cannot be bent.

