PALGARD™

Flat Solid Abrasion Resistant Polycarbonate Sheet

CONSTRUCTION

Overview

PALGARD resists vandalism, graffiti spray and physical attack due to a powerful combination of physical properties. It is ideal for safety glazing in public and commercial projects, as well as vehicles.

PALGARD is resistant to a wide variety of chemicals and the increased wear that is typical of high traffic areas. Due to its excellent UV blocking, PALGARD is ideal for skylights. It can also be glass-laminated for ballistic application purposes.

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Main Benefits

- High abrasion resistance on one or both sides
- Impact Resistant: Virtually unbreakable
- Resistant to acts of vandalism
- High chemical resistance
- Up to 90% light transmission
- Excellent acoustical Insulation
- Blocks out UV radiation better than sunscreens
- Easy to mount and install
- Lightweight

Typical Applications

- Safety glazing
- Security and ballistic resistant glazing
- Anti-vandal glazing
- Anti-graffiti protection for displays
- Prison windows
- Sound barriers
- Industrial protective shielding
- Bus stops and telephone booths
- Shields for police and security forces
- Protective helmet visors

Build On.

PALGARD™

Product Availability

Colors	Width x Length (mm)	Thicknesses (mm)
Clear, Bronze	2000 x 3000	3 to 18
	1220 x 2440	
	1830 x 2440	

* Special dimensions and colors are available, subject to minimum order.

Mounting and Cleaning

PALGARD can be mounted into most existing frames made of PVC, aluminum or other metals. It is recommended to use neoprene or EPDM packing (never use soft PVC) in order to secure the sheet in its frame, rather than fixing with screws. Butyl rubber sealing strip or silicone sealant are also permissible. Any of the above materials, chemical substances or cleaning agents must explicitly receive the manufacturers approval before their use with or on PALGARD.
PALGARD can easily be cleaned with a soft cloth made from 100% cotton using mild soap solution and rinsing with cold water.
It is best to use mild dish cleaning preparations. Commercial spray cleaners are available. Please consult with your local Palram agent or representative for recommended commercial preparations available locally.
Installation instructions and a list of compatible materials are available upon request.

Chemical and Abrasion Resistance

The unique coating on PALGARD's surface is the source for its chemical and abrasion resistance. This coating provides PALGARD with a chemical resistance durable to various materials ranging from corrosive elements and solvents to cleaning agents. Graffiti spray can easily be removed and the sheet is ideal for industrial environments where volatile chemicals are present.
In addition, high abrasion resistance, when matched with mechanically superb polycarbonate, allows PALGARD's designation to a variety of specialty applications.

Typical Physical Properties*

Property	Method*	Conditions	Units	Value
Density	(ISO 1183)		g/cm^3	1.2
Water absorption	(ISO 62)	24h @ 23°C	mg/kg	<8
Tensile strength	(ISO 527)		MPa	60
Elongation at break	(ISO 527)		%	90
Tensile modulus of elasticity	(ISO 527)		MPa	2,200
Abrasion (Taber process)	(ISO 9352)	100 rotations, CS-10F, 500g	% Haze	<1.5
Layer thickness			µm	7 - 15
Adhesive properties		0.5/1.0/2.0 h boiled@100°C		GT 0/0/0
VICAT diluting temperature	(ISO 306)	VST/B 50	°C	150
Constancy temperature HDT/A	(ISO 75)	Load: 1.8 MP	°C	135
Permanent use temperature	(DIN 53446)		°C	115
Service temperature range			°C	-50 to +100
Coefficient of linear thermal expansion	(DIN 53752)		cm/cm °C	6.5×10^{-5}
Thermal conductivity	(DIN 52612)	0- 50 °C	W/m K	0.21
Specific heat			J/g K	1.3
Light transmission (380-780 nm)	(DIN 5036)		%	>86
Chamfer angle	(DIN 52305)	3mm sheet	Bg'	<5
Refractive power	(DIN 52305)		dpt	<0.1
Specific volume resistivity	(DIN VDE0303)		Ωcm	10^{15}
Dielectric strength	(DIN EN 60243)		kv/mm	>30

* Aside from abrasion parameters, tests and results apply to the carrier material only.

Flammability

Standard	Classification*
EN13501	B, s1, d0
BS 476/7	Class 1
NSP 92501, 4	M2
DIN 4102	B1, B2
UL Classified	V2 (File e221255)
ASTM D-635	CC1

* Depends on thickness. Please contact your Palram distributor for additional information.

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