panelgraphic
display enhancement solutions

Data Sheet 08
Optiguard Coatings

Optiguard Coatings™

Abrasion Resistant Coatings

Optiguard Coatings will dramatically reduce scratching when applied to acrylic or polycarbonate sheet or mouldings giving a surface hardness approaching that of glass together with superior resistance to chemical attack. All Optiguard coatings aresuitable for internal and external use but it is recommended that UV stable substrates be used when exposed in direct sunlight.

Optiguard Coatings are UV curing solvent-based Polyacrylate (a blend of bi and tri-functional Acrylates) with a cured film thickness of 2 - 10 microns (dependant on format required). Using very specific photo-initiators Optiguard uses the high-energy UV output to trigger the cross-linking process. It is with this high efficiency of cross-linking which imparts such high qualities of abrasion and chemical resist ance and adhesion to many different substrates.

The Optiguard Coating family consists of the following:

- Optiguard Clear™
- Optiguard Anti-Newton™
- Optiguard 75™
- Optiguard 65™
- Optiguard 55™
- Optiguard 40™
- Optiguard 30™
- Optiguard 20™
- Optiguard Diffuser™
- Optiguard Automotive™

*varying formulations can be manufactured to meet customer requirements

Coating Capabilities

Absolute Maximum Coating Dimensions	2000mm(L)	610mm(W)	130mm(H)
Acrylic Sheet recommended dimensions	1000mm	500mm	130mm
Polycarbonate Sheet recommended dimensions	1250mm	510mm	130mm

Polycarbonate Test Data

Environmental Exposure

	Unexposed	Humidity (1)
Light Transmittance % (2)	91	91
Haze % (3)	0.4	0.5
Adhesion % (4)	100	100
Yellowness Index Change (5)	0	0

Scratch / Abrasion Tests

	Haze Change (3)	
	Uncoated	Coated
Steel-wool Scratch (6)	28.1	0.4
Taber Abrasion (7) 100 Cycle	32.0	3-4

Chemical Resistance (8)

	Uncoated	Coated
Ethanol	L	L
Trichloroethylene	X	S
5% Ammonia	S	S
50% Caustic Soda	X	S
10% Sulphuric Acid	L	L

Acrylic Test Data

Environmental Exposure

	Unexposed	Humidity (1)
Light Transmittance % (2)	91	91
Haze % (3)	0.2	0.4
Adhesion % (4)	100	100
Yellowness Index Change (5)	0	0

Scratch / Abrasion Tests

	Haze Change (3)	
	Uncoated	Coated
Steel-wool Scratch (6)	31.1	0.4
Taber Abrasion (7) 100 Cycle	26.2	3-4

Chemical Resistance (8)

	Uncoated	Coated
Ethanol	L	L
Trichloroethylene	X	S-M
5% Ammonia	L	L
50% Caustic Soda	L	L
10% Sulphuric Acid	L	L

1. Humidity: 120 hrs @ 52°C & 100% RH
2. Light Transmittance: ASTM D-1003
3. Haze: ASTM D-1003
4. Adhesion: ASTM D-3359
5. Yellowness Index: ASTM D-1925
6. Steel-wool Scratch: Steel-wool rotary test representing severe scratching using a 1.25sq.inch #0000 steel-wool pad at 24psi for 100 rotations.
7. Taber Abrasion: ASTM D-1044
8. L = greater than 24 hours
   M = up to 8 hours
   S = up tp 1 hour
   X = do not use

Panel Graphic Ltd. Loddon Industrial Estate, Loddon, Norfolk, NR14 6JD, UK.
t: +44 (0) 1508 528028 f: +44 (0) 1508 528029
e: info@displaywindows.com www.displaywindows.com