



HARD COATED SHEET



TUFFAK HC polycarbonate and OPTIX HC acrylic are sheets with a UV cured, optical grade clear coat that provides excellent protection against abrasion.

The coating is based on a urethane acrylate monomer and provides excellent chemical resistance as well as protection against yellowing from the sun's UV rays.

BENEFITS

- » Optical Clarity – Enhanced optical grade coating. Sprayed on and UV cured; no visible flow lines, leaving a clear and transparent finishing.
- » Abrasion Resistance – Scuffs, chips and scratches are vastly reduced in both quantity and severity.
- » Chemical Resistance – Protection against strong chemicals.
- » Enhancement – A high gloss finish enhances coloured plastics and prints.
- » Weatherability – Providing protection against yellowing from the sun's UV rays.
- » Durability – Our coatings enhance the life of any plastic substrate.

TECHNICAL DATA

COATING ADHESION using test method ASTM D3359 DN53 15

MATERIAL	ADHESION ON APPLICATION	ADHESION AFTER 72H WATER SOAK
Polycarbonate	100%	100%
Acrylic	100%	100%

COATING HARDNESS using test method ASTM D3363 and ASTM D1003

As the tests employed for coating hardness are substrate dependant, these tests have been carried out on both Acrylic and Polycarbonate.

TABER ABRASION using ASTM D1003 after 500 cycles

Polycarbonate <3%	Acrylic <3%
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Test protocols of ASTM D1003 – 500 cycles & 500 gram weight using CS-10F wheels. After 500 cycles TUFFAK HC and OPTIX HC gives a delta haze value of <3%

CHEMICAL RESISTANCE using ISO test method 2812

This test was completed at 15 minute intervals for 8 hours and then left for a total of 24 hours.

CHEMICAL	RESULT	CHEMICAL	RESULT
Ketones	Passed	Aliphatics	Passed
Alcohols	Passed	Alkalis	Passed
Esters	Passed	Acid	Passed
Glycol ethers	Passed	Diesel	Passed
Aromatics	Passed	Petrol	Passed

LIGHT TRANSMITTANCE - CLEAR ONLY

This is dependent on the substrate to which it is applied but the coating itself typically reduces the light transmission by less than 1%.

O2 AND WATER VAPOUR TRANSFER to ASTM D6701 in triplicate

Average water vapour transfer of a coated piece of Polycarbonate was reduced by 0.5g/m2 or 28%, against an uncoated piece of the same substrate. Actual WVTR at time of testing for coating only

FIRE TESTED to CS.25.853 (A) app.f part 1 (a)

CLEANING

In order to maintain the product in good condition, regular cleaning may be permitted using suitable household cleaning agents. The abrasive resistant coating gives improved protection against chemical attack.

- » Use lukewarm water to rinse and soften dirt.
- » A solution of lukewarm water and ordinary household cleaner or mild soap for cleaning.
- » A sponge or soft cloth should then be used to gently remove dirt and grime.
- » Ethyl alcohol or white kerosene may be used sparingly to remove paint and other such substances.

However, do not:

- » Scrub the sheet with brushes or sharp implements.
- » Use squeegees.
- » Use harsh solvents for prolonged periods of time, other than those listed, or any abrasive cleaners.
- » Avoid cleaners of a highly alkaline composition.

Always finish a clean by rinsing with clean water.

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.