



FleXHC-32

Flexible hard coat on plastic



Description

FleXHC is a siloxane polymer solution designed for plastic substrates. FleXHC is available as a coated PMMA sheet (see Fig. 1), and as a liquid ready-to-coat solution. FleXHC forms highly transparent, optically clear and flexible hard coating on substrates like PMMA sheet. The coating is scratch resistant, easy to clean and has excellent optical properties. FleXHC is ideal for touch screen applications.

Main applications

- Touchscreens
- Cover glass replacements
- Appliance overlays
- Automotive films
- Flexible electronics overcoats

Key features of FleXHC coating

- Scratch resistant
- Easy to clean – smudge resistant
- Superb optical clarity
- Process flexibility and die cutting
- Excellent visual outlook
- Glass-like surface
- Superior chemical resistance
- Truly flexible and bendable

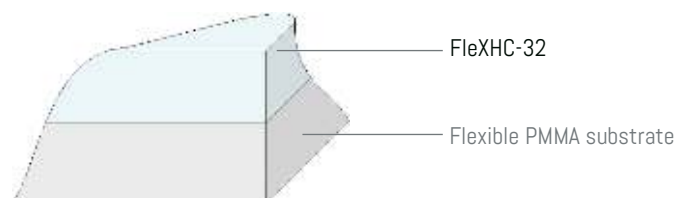


Fig. 1. Flexible family materials film layers

How to Apply

The solution is applied as a single-layer coating by using roll-to-roll (R2R) or flow coating process followed by thermal and UV curing steps. After final curing, a stable coating performance is achieved.

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Key properties of FlexHC-32 *		Result	Standards
Mechanical performance	Pencil Hardness	750 g / 5H	ASTM D3363 ; Elcometer tester Mitsubishi pencils
	Ball drop test 150 g from 40 cm	With coating - No Scratch, without coating heavy scratching	
	Adhesion	5B	ASTM D3359-09 ; Elcometer Cross-hatch tester
	Adhesion	5B	ASTM D3359-09 ; Elcometer tape test
	Abrasion (steel wool)	500g / 2000 cycles	TABER® Linear Abraser (Abrader) - Model 5750
Optical performance	Transmittance % (550 nm)	>93 (Blank PMMA typically ~ 92) AR Increase 1%	ASTM D1003, Konica Minolta spectrophotometer
	Visible light transmittance % (400-700 nm)	>93 (Blank PMMA typically ~ 92) AR Increase 1%	
Environmental performance	High temp / High humidity T70°C : H90% (500 hrs)	PASS	Environmental Chamber
	Thermal cycle High temp 70°C : Low temp -40°C, 27 cycles, 90 min / cycle	PASS	Environmental Cycling Chamber
	UV exposure test 16Kwh	PASS	ASTM D1003, Konica Minolta spectrophotometer

* Test results reported for 6.5 µm coating thickness on 1.4mm thick PMMA

Solution properties, storage and handling

The solution is a clear liquid of siloxane polymer in glycol ether and alcohol solvents with a specific gravity of 0.98 kg/L (at 20°C) and with a viscosity of 5 mPas. The solution should be stored in tightly closed containers in a cool, well-ventilated and dark place. Refrigeration to -18°C gives optimum storage stability. Shelf life is 6 months from the date of manufacturing. The solution should be protected from light and heat. For working safety, consult product Material Safety Data Sheet.

Coated products

We also provide coated rolls with Optitune Flex-materials, see information contacts below.

The information given is based on our best knowledge at the date of issue, but carries no guarantee or acceptance of responsibility. For further data on products toxicological, ecological and safety aspects, please consult the MSDS. It is the responsibility of the user of the product to ensure to satisfaction that the product is suitable for the intended purpose and methods of use. We do not accept responsibility for any harm caused by the use of this information.

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