FleXDSQ

Dielectric overcoat for flexible plastic touch sensors

Description

FleXDSQ is a one component solution designed to form highly transparent, electrically insulating layers on flexible plastic substrates. With excellent adhesion to both ITO and plastic, FleXDSQ is the ideal material for multi-layer photopatterning processes. Extreme flexibility makes FleXDSQ the perfect material for next generation device concepts.

Main Applications

- OC1/OC2 for flexible sensors based on ITO
- Overcoat for flexible sensors based on AgNW

Key Features

- Low temperature cure
- Excellent adhesion and chemical resistance
- Bending radius < 3mm
- High transmission
- Excellent lithographic resolution
- Matched to KOH development system

Technical Background

FleXDSQ is a negative tone photo-sensitive coating providing homogeneous and patterned coated structures. Its' strengths are excellent photo-lithographic resolution, high transmission, hardness and excellent adhesion on various plastic substrates as well as on ITO.

How to Apply

FleXDSQ can be applied by using slot or spin coating processes. It is also applicable by roll to roll coating lines. The material can be adjusted to meet specific customer requirements. The relatively low viscosity of the material can be adjusted to meet the conditions of a fully automated industrial coating line. Both I-line and broadband UV sources can be used for photopatterning (KOH developer compatible). Gravure processes can also be used for patterning in a roll-to-roll process. Drying can be achieved through a combination of heat, UV and where necessary, vacuum extraction.

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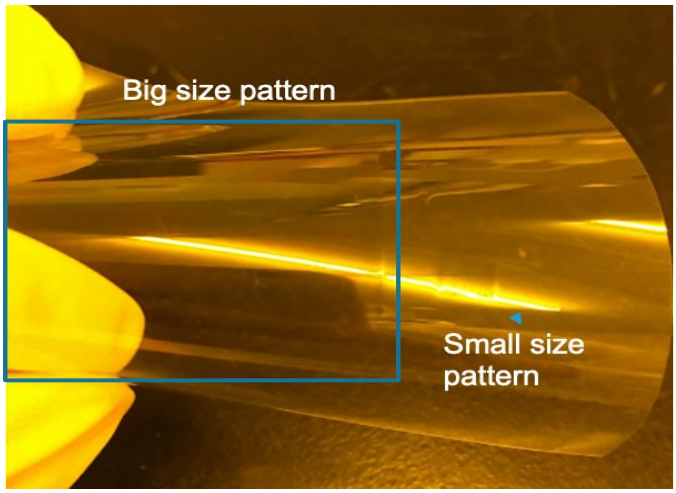
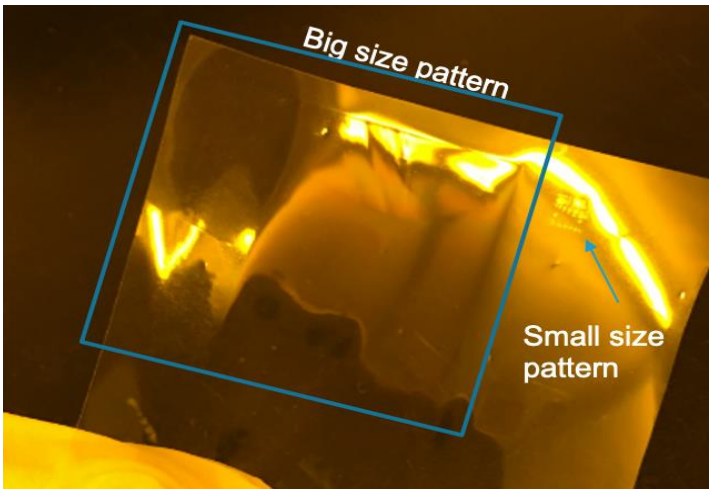
Item	Performance on COP or PET plastic film	Test method / Standards
Adhesion	5 B	ASTM D3359-D9; Elcometer Cross-hatch tester and Elcometer tape test
Bending test	Radius 3 mm: > 100,000 cycles	Substrate 50 um PET & COP film, bend in & bend out test
Resolution	10 um	I-line, exposure gap: 250 um





DSQ overcoat material available also for glass touch sensors

Item	Performance on bare glass and ITO-glass	Test method / Standards
Adhesion	5 B	ASTM D3359-D9; Elcometer Cross-hatch tester and Elcometer tape test
Resolution	10 um	I-line and broad band, exposure gap: 250 um
Chemical resistance	Pass	Condition 1: Al etch (40 C/100 s) + Stripper (60 C/135 s) Condition 2: Aqua regia (40 C/100 s) + Stripper (60 C/135 s)

Solution properties, storage and handling

Solution should be stored below room temperature, preferably -18°C, in a well-ventilated place. Keep containers tightly closed and protected from sources of heat and light. Shelf life is 6 months from the date of manufacture. For working safety, consult product Material Safety Data Sheet.

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