FleXAR

Anti-reflective coating for flexible PET & Polycarbonate

Description

FleXAR is a siloxane polymer solution designed to work as an easy-to-apply coating that enhances light transmittance and reduces unwanted reflection in a wide variety of lighting and display applications. FleXAR allows display, lighting, and luminaire manufacturers to achieve clarity and important energy savings through improved Lumen/Watt performance without sacrificing creative functional design.

Main Applications

- Flexible Displays
- Automotive Infotainment Systems
- Lighting Fixtures / Luminaires

Key features

- Truly flexible coating
- Cost savings through improved energy efficiency
- Easy to apply requiring low curing temperatures

Technical Background

Planar, stepped, curved or even bendable displays and infotainment systems always require more brightness, clarity, and efficiency with lower power consumption. Optitune FleXAR delivers exceptional optical properties to plastics that are necessary to achieve such light weight and complex designs.

How to Apply

Ideally, FleXAR is applied by using roll-to-roll tool with slot die coating process followed by a simple thermal cure. FleXAR coating material is available as a liquid ready-to-coat solution, which can be applied on one or both sides of the substrate.

For product sales, please contact
Asia Edward Huang
edward.huang@optitune.com, +86 159 9627 9587
Tim Tang
tim.tang@optitune.com, +886 921 554 309
EMEA/Americas Neil Pschirer
neil.pschirer@optitune.com, +351 927 241 218 (Portugal)

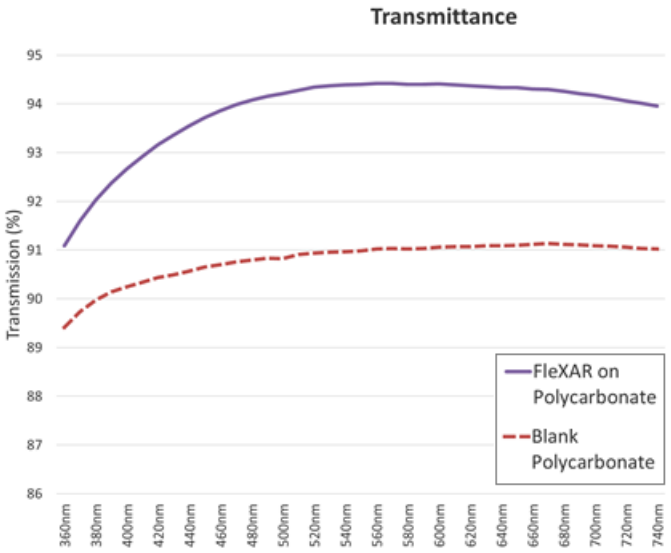
Optitune Oy
Kaitoväylä 1 F 3
90590 Oulu, Finland
http://www.optitune.com

FleXAR

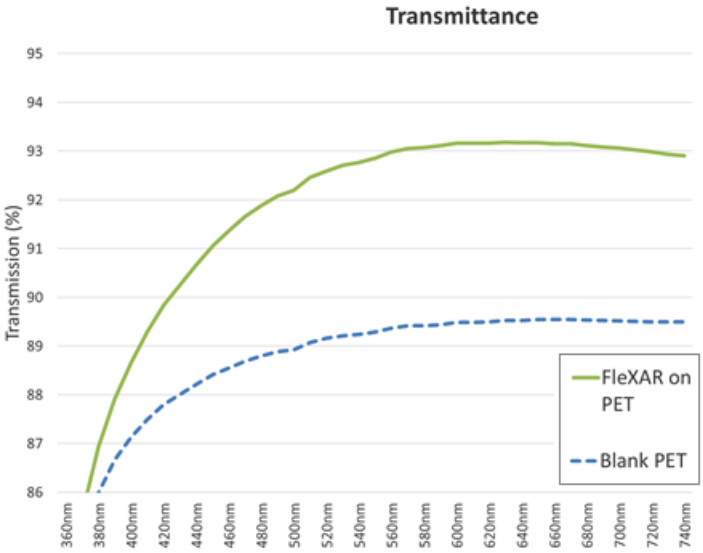
Performance

Transmittance (%)

FleXAR coating enhances light transmittance over a broad wavelength range.



Graph 1. Visible light transmittance curve of single side coated FleXAR polycarbonate film vs. non-coated. Substrate 250 µm Lexan 8010.



Graph 2. Visible light transmittance curve of single side coated FleXAR PET film vs. non-coated. Substrate 125 µm Melinex.

	Reflectance @550 nm	L*(D65)	a*(D65)	b*(D65)	Haze(D1003-97)(C)	Haze Cmod
FleXAR on PC (Lexan 8010, 250 µm)	coated 1,22% (blank 5,52%)	97,76	-0,15	0,44	0,15	0,17
FleXAR on PET (Melinex 125 µm)	coated 2,42% (blank 6,65%)	97,12	-0,18	1,21	0,09	0,1

Table 1. CIELab values of FleXAR coated Lexan 8010 and FleXAR coated PET Melinex films.

Truly Flexible

Due to very thin coating layer thickness FleXAR extremely flexible. FleXAR on 250 µm Lexan 8010 polycarbonate or 125 µm Melinex PET substrate can be bent around 2 mm diameter mandrel without cracking or delaminating, and it has 5B adhesion on both substrates.

Solution properties, storage and handling

Solution should be stored below room temperature, preferably +4°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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