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® = registered trademark

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PLEXIGLAS®

PLEXIGLAS® and EUROPLEX®
HC films for HPL Panels



POLYVANTIS

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Interior and Exterior Applications

PLEXIGLAS® and EUROPLEX® HC films offer enormous creative scope to the HPL industry. They serve as a protective layer for HPL panels for interior and exterior applications wherever the most stringent requirements need to be met in terms of function and design. In combination with a fine-tuned resin formulation and the selection of qualitative decor papers with a high light solidity, PLEXIGLAS® and EUROPLEX® HC films enable the production of panels that meet the EN 438-6 standard.

PLEXIGLAS® film

- based on polymethyl methacrylate (PMMA)
- impact modified with polybutyl acrylate (PBA)
- exceptional optical clarity
- UV and weathering resistance
- surface hardness
- dimensional stability

EUROPLEX® HC film

- PMMA layer which is co-extruded with a PVDF (polyvinylidene fluoride) layer on top
- very good resistance to chemicals
- anti-soiling effects
- easy to clean

PLEXIGLAS® and EUROPLEX® HC films are both characterized by their high weathering and UV protection level in long term outdoor exposure. EUROPLEX® HC films additionally feature a high level of chemical resistance. A very low surface tension makes it easy to clean. In combination with selected cleaning agents, even graffiti can be easily removed without leaving any ghost image on the panels.

Coated EUROPLEX® HC film

- co-extruded PMMA layer with acrylic polyurethane coating
- outstanding scratch resistance
- outstanding resistance to chemicals
- Outstanding UV and weathering resistance

Benefits

- Suitable for interior and exterior applications
- Production of HPL panels that comply with EN 438-6 standard
- Weathering resistant according to ISO 4892-2 (EN 438:2, 28)
- Films can be directly applied during the manufacturing process of the panels
- Chemical bonding avoids delamination

Product Matrix: PLEXIGLAS® and EUROPLEX® HC films for the HPL industry

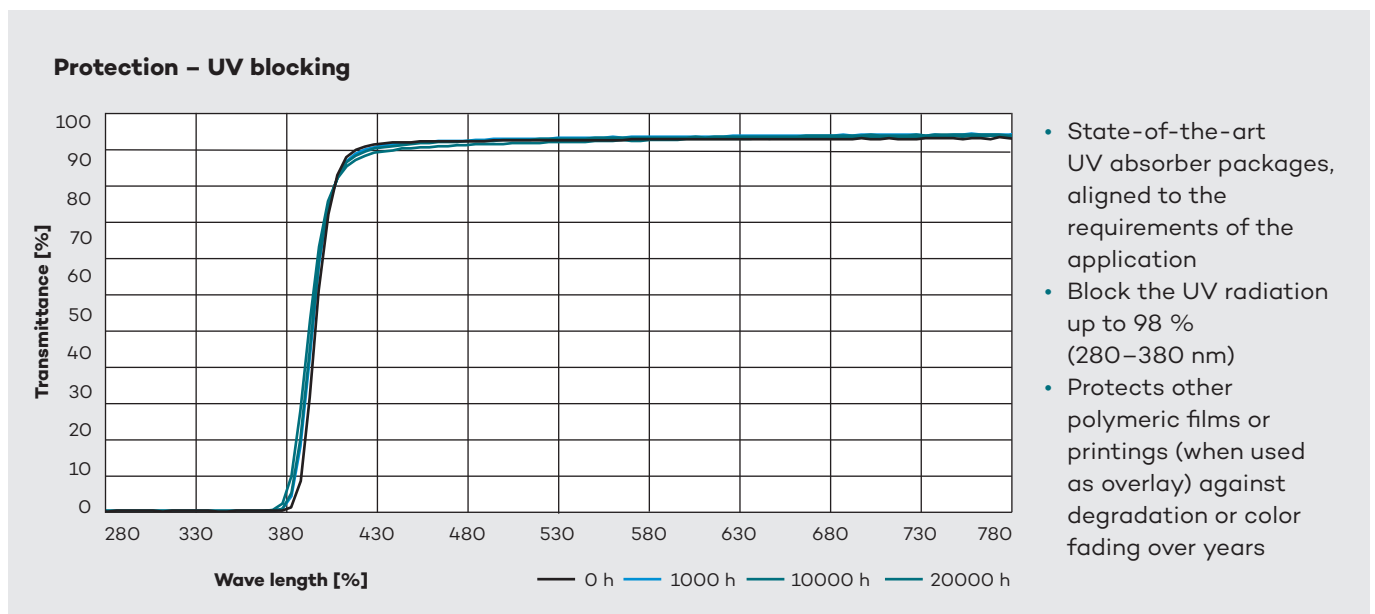
	PLEXIGLAS® HC 99836	EUROPLEX® HC OF700	EUROPLEX® HC OF701
UV protection 10 years	+		
UV protection 20 years+		+++	+++
Chemical resistance		+	+++
Easy to clean including graffiti		++	++
Anti-soiling		++	+
High scratch resistance			+++

Adhesion Properties

The films contain an adhesion promoter which will be activated under the standard HPL pressing parameters. During the pressing process a chemical reaction (nucleophilic addition) between the adhesion promoter and the melamine resin of the decor paper achieves a covalent bond.

UV Protection

PLEXIGLAS® and EUROPLEX® HC films are modified with varying degrees of UV absorbers that block the UV-radiation on a long-term basis under UV exposure. They protect the decor paper from degradation caused by UV radiation.



The diagram shows the weathering test results of EUROPLEX® HC Film OF700 before and after 20000 hours according to ISO 4892-2

Weathering Test

Weathering test according to ISO 4892-2 (EN 438:2, 28) proves the efficiency and the performance level of PLEXIGLAS® and EUROPLEX® HC films. Panels protected with these films do not show any significant change. According to EN 438:2, 28, it is recommended to test the exterior compact laminates for 3.000 hours. The laminates protected with PLEXIGLAS® and EUROPLEX® HC films significantly exceeded that level and have even reached 25.000 hours in the case of OF700 and OF701.

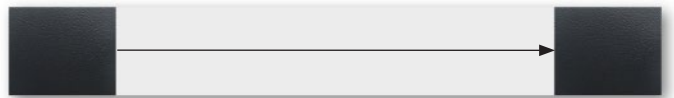
HPL without UV Protection film



HPL protected by PLEXIGLAS® 99836



HPL protected by EUROPLEX® HC OF700



HPL protected by EUROPLEX® HC OF701



Various types of compact laminates after 10.000 hours of accelerated weathering test according to ISO 4892-2 (EN 438:2, 28)

0 h 1000 h 10000 h 20000 h

Processing

PLEXIGLAS® and EUROPLEX® HC films are directly applied during the manufacturing process of the panels. No additional equipment, process step or adhesive is required. Standard process temperatures of 145 °C to 155 °C and standard process pressures of 70 bars to 100 bars are sufficient to incorporate PLEXIGLAS® and EUROPLEX® HC film and achieve proper chemical bonding.

Film types are also available that allow the production process to be optimized by dispensing with release films. Suitable products for this method are:

- PLEXIGLAS® 99836
- EUROPLEX® HC 0F700
- EUROPLEX® HC 0F701

PLEXIGLAS® and EUROPLEX® HC films are thermo plastic. Their surface can be easily embossed with the metal plate during the pressing process. Different surface finishing such as matt or glossy can be achieved by varying the structure of the press plates.

Smooth or structured steel plates can be used to realise different HPL surfaces

