



# TACPHAN®

## MOST IMPORTANT PRODUCT FEATURES

- Thickness range: 25 µm - 1140 µm
- Colors: colorless, white und bluish
- High rigidity and tensile strength
- Outstanding optical purity
- High inherent scratch resistance

## MATERIAL

The TACPHAN® film is produced from cellulose-triacetate (TAC) (synthesized from natural cellulose) using the solvent casting process. The raw material cellulose triacetate is of higher quality, has greater dimensional stability, and is more temperature resistant than diacetate and acetate and is not suitable for melting processes. A wide range of functional additives are available in the manufacturing process. The film is free of phthalates. TACPHAN® is produced in a thickness range of 25 µm to 1140 µm, additional thicknesses can be offered upon request.

## MECHANICAL PROPERTIES

TACPHAN® exhibits very high rigidity and tensile strength. Its mechanical properties are very stable across a broad temperature range beyond 100 °C. The film exhibits high inherent scratch resistance. Due to the special solvent casting process, the mechanical properties are nearly identical in the longitudinal and lateral directions.

## THERMAL PROPERTIES

Unlike other highly transparent plastic films, TACPHAN® film does not have a sharp softening point, but instead exhibits gradual changes when heated. This property is due to its partial crystallinity that gives it a melting range of 235 °C to 270 °C. As a result, the mechanical properties are very stable across a broad temperature range beyond 100 °C. A slight softening begins above 120 °C. Thermoforming into slightly bent shapes is possible above 150 °C.

## OPTICAL PROPERTIES

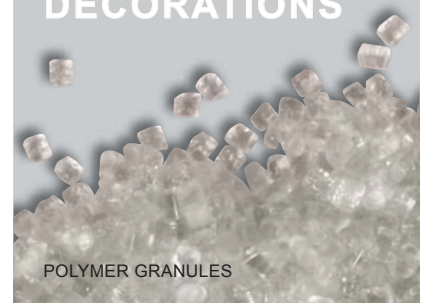
TACPHAN® is characterized by very high transmission – even in the UV range



## OUR MARKETS

Our broad range of products and ability to realize custom solutions allow us to serve a wide variety of industries and markets:

- DIAGNOSTICS
- ELECTRICS
- ELECTRONICS
- DISPLAYS
- ACOUSTICS
- LABELS
- GRAPHICS
- PRINT
- 3D GLASSES
- OPTICS
- DECORATIONS





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– and low haze. TACPHAN® film with a thickness of 80 µm without UV treatment, for example, has a transmission of > 90 % in the UV-A wavelength range between 325 nm and 400 nm. TACPHAN® is virtually free of yellowing and conditionally stable in the presence of UV radiation. Thanks to its extremely low retardation, special versions of the film fulfill requirements for use in LCD screens, for example.

## ELECTRICAL PROPERTIES

TACPHAN® has good insulation properties. Up to 120 °C, the electrical properties change only minimally relative to temperature.

## CHEMICAL PROPERTIES

TACPHAN® is resistant to oil, grease, benzines and aliphatic hydrocarbons. TACPHAN® is attacked or swelled by chlorinated hydrocarbons, ketones, and aromatic solvents. These properties have a positive effect on adhesion during lamination with other plastic films or paper. TACPHAN® is not resistant to concentrated acids and alkalis. The film is attacked by these substances.

## FIRE BEHAVIOR

Its proportion of plasticizers makes TACPHAN® self-extinguishing.

## WATER ABSORPTION

Manufactured from natural cellulose, TACPHAN® absorbs a certain amount of water that can influence its dimensional stability. Suitable material formulations reduce water absorption to a low level. TACPHAN® film exhibits a moderate water vapor transmission rate, which enables rapid drying of aqueous adhesive systems in laminates.

## FURTHER PROCESSING

TACPHAN® can be effectively adhered with the aid of selected solvents, solvent-based adhesives, and with the hotmelt process. It can be welded using the thermal impulse method, among other methods.

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TACPHAN® can be printed and dyed effectively with common printing methods such as offset, gravure, and screen printing. As with all plastics, when printing TACPHAN® it is important to ensure that the dyes have dried to the touch before stacking and that the individual stacks are kept small. The high gloss of TACPHAN® film results in particularly high color brilliance with multi-color prints.

## COMPLIANCES

