



# VIOPHAN

## MOST IMPORTANT PRODUCT FEATURES

- Thickness: 50 µm
- Color: white
- Defined low elongation at break with optimal tensile strength
- Suitable for food contact
- High opacity

## MATERIAL

VIOPHAN is produced from a vinyl polymer with the addition of mineral pigments, and occasionally with bio-based additives, using the solvent casting process. The film is free of phthalate plasticizers and organic tin compounds. VIOPHAN exhibits two different surfaces, matte and glossy. Both sides have very good printing and adherence properties. The film is available in a thickness of 50 µm.

## MECHANICAL PROPERTIES

VIOPHAN exhibits a defined, very low elongation at break, making it ideal for use as a base film for easily destructible safety labels used to protect against counterfeiting. This property prevents removal of the label without its destruction. At the same time, its tensile strength is ideal for processing rolls of the product when manufacturing labels. Due to the solvent casting process, the mechanical properties are virtually identical in the longitudinal and lateral directions.

## THERMAL PROPERTIES

When applied as a label, VIOPHAN is thermally stable from -10 °C to +110 °C, depending on loads.

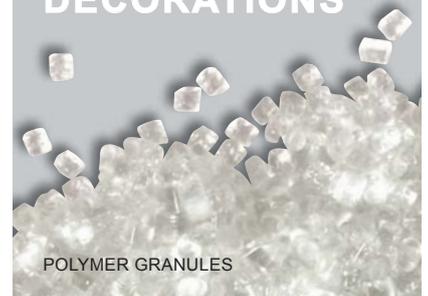
## OPTICAL PROPERTIES

VIOPHAN is characterized by a high degree of whiteness and high opacity. This permits production of labels with strong covering power and printed colors appear particularly brilliant. The film has a glossy side and a matte side with a defined degree of mattiness. The printed side can be chosen depending on the desired surface. Unlike other products on the market, VIOPHAN film can

## 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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be used to print both glossy and matte labels from a single film type.

## CHEMICAL PROPERTIES

VIOPHAN has moderate to good resistance to oils, grease, diluted aqueous acids, alkalis, and salt solutions as well as to aliphatic hydrocarbons like benzene and alcohol. VIOPHAN is not resistant to chlorinated hydrocarbons, ketones, and many esters.

## FIRE BEHAVIOR

VIOPHAN is self-extinguishing due to its special formulation and does not produce burning drops of melted plastic.

## WATER ABSORPTION

VIOPHAN absorbs virtually no water, so its dimensional stability is not influenced by moisture.

## FURTHER PROCESSING

During production of labels, VIOPHAN is very well suited for coating with dispersion adhesives.

VIOPHAN can be printed with common printing methods flexo, screen, and offset; other printing methods must be tested first. Especially during offset printing, the inks should be adjusted to a lower viscosity in order to avoid dirtying the rubber blanket. When selecting printing inks, ensure that they have adequate adhesion to vinyl films. As with all plastics, when printing on VIOPHAN ensure that the inks dry well before stacking and keep the individual stacks small.

During processing, temperature must be 20 °C to 25 °C; relative air humidity must be between 45 % and 55 %.

## STORAGE

The temperature in the storage area must be between 15 °C and 30 °C; relative air humidity must be between 45 % and 55 %. At the factory the film is packaged in aluminum foil that protects against light and dust. Any film that is not completely used must be placed back in this aluminum foil before being put into storage.

COMPLIANCES