



SONOPHAN®

MOST IMPORTANT PRODUCT FEATURES

- Thickness range: 5 µm - 12 µm
- Color: amber
- Glass temperature: 217 °C
- Films as thin as 5 µm
- Low rigidity with high Young's modulus

MATERIAL

The SONOPHAN® film has the highest temperature resistance of any LOFO product. Using the solvent casting process, ultrathin films with a thickness of only 5 µm can be manufactured from the base polymer polyetherimide (PEI, Ultem®) without an additional stretching step. The outstanding properties of this high-performance polymer are valued in applications like loudspeaker membranes and capacitors. SONOPHAN® is produced in standard thicknesses of 5 µm to 12 µm, additional thicknesses can be offered upon request.

MECHANICAL PROPERTIES

SONOPHAN® is a thin film with low rigidity despite its high Young's modulus, making it desirable for many applications. The elongation at break of a thin 5-µm film is as high as 120 %. SONOPHAN® is highly desirable whenever long-term durability at high frequencies is required. Due to the solvent casting process, the mechanical properties are virtually identical in the longitudinal and lateral directions. SONOPHAN® has very good thermoforming properties.

THERMAL PROPERTIES

SONOPHAN® has a glass transition temperature of 217 °C and a heat deflection temperature of 193 °C (at 1.8 MPa), giving it the highest temperature resistance of any high-performance film in our product line.

OPTICAL PROPERTIES

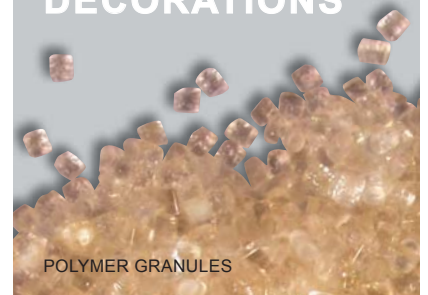
SONOPHAN® is generally one-sided matte (EM), therefore exhibiting with its structured surface conditional optical refraction. The matte surface enables straightforward processing of even very thin films. SONOPHAN® is not



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



SONOPHAN®

pigmented, so it has the amber color typical of PEI.

ELECTRICAL PROPERTIES

Polyetherimide is known for its good electrical properties, which remain stable over a wide temperature range. In the gigahertz range (microwaves) PEI exhibits an extraordinarily low loss factor.

CHEMICAL PROPERTIES

SONOPHAN® exhibits significantly better resistance to hydrolysis and stress cracking than other condensation polymers like polycarbonate. SONOPHAN® is resistant to oils, greases, benzines, aliphatic hydrocarbons, acids, as well as most alcohols. SONOPHAN® is not resistant to chlorinated hydrocarbons, ketones, and aromatic solvents. Long-term exposure at pH >9 should be avoided. In these media, the film will be attacked or will dissolve. SONOPHAN® is inherently resistant to hydrolysis and high-energy radiation.

FIRE BEHAVIOR

SONOPHAN® is inherently flame-retardant and self-extinguishing and emits very little smoke when burning.

WATER ABSORPTION

SONOPHAN® absorbs approximately 0.7 % moisture, so the film properties are only marginally influenced by moisture under normal conditions.

RADIATION BLOCKING

SONOPHAN® has inherent resistance to UV radiation without additional UV protection. SONOPHAN® is also highly resistant to beta and gamma radiation.

FURTHER PROCESSING

SONOPHAN® is thermoformable and can be coated with common high-vacuum methods. The film has a particularly high surface tension of approximately 50 mN/m, so excellent printing results can be obtained with virtually all types of inks. It can be adhered effectively through the use of selected solvents, solvent-based adhesives, and dispersion adhesives as well as through the hotmelt process.

COMPLIANCES



The compliance section features three circular logos. The top logo is a green circle with a white leaf-like shape in the center, containing the text 'RoHS conform'. The middle logo is a green circle with a white recycling symbol in the center, containing the text 'CHINA ROHS CONFORM'. The bottom logo is a green circle with a white leaf-like shape in the center, containing the text 'REACH'. All logos have 'LOFO COMPLIANCE FOR SONOPHAN®' written around the perimeter.

