

Flame Retardant, UV Absorptive, Shatter Proof Polymer Material

Polymethylmethacrylate (PMMA), commonly known by the trade-names of Plexiglas™ or Perspex™, is a high gloss, glassy polymer which is naturally transparent and colorless. However, PMMA has poor thermal properties and is known to easily ignite, which has limited its wider market appeal.

Benefits:

- 200% Increase in Flame Retardancy of PMMA
- Excellent Thermal Stability
- High UV Absorbance than Silicate Glasses
- Same Viscosity and Young's Modulus as PMMA
- Naturally Transparent and Colorless
- Inexpensive to Produce
- More Easily Extruded

A novel composition and method of manufacture has been developed by the faculty of Stony Brook University's Department of Materials Science and Engineering that includes PMMA and a functionalized clay, which increases the flame retardancy by 200%, increases the specific heat of the material and provides for UV absorbance higher than that of silicate glasses.

Furthermore, this material is inexpensive to produce, extrudes more easily than PMMA and is less susceptible to "Sharks Skin" a phenomenon which disfigures the surface at high shear. The viscosity and the Young's modulus of this new material are also the same as that of pure PMMA.



R-7533

Applications:

- Automotive Glass
- Shatter Proof Glass
- Laboratory Glassware / Eye-wear
- Toys and Novelty Items

Patents / Publications:

- 7,521,499

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