

Eastman Tritan™ copolyester for transparent in-mold decoration applications

Eastman Tritan™ copolyester

- Eastman Tritan™ is an innovative, new-generation copolyester that retains the versatility of traditional copolyesters while offering higher temperature performance and impact resistance. The unique properties of Tritan™ deliver advantages over other clear thermoplastics.
- Functional attributes of the Eastman Tritan™ copolyester:
 - Toughness
 - Clarity
 - Excellent chemical resistance
 - Lower melt processing temperature
 - Good adhesion to ink/films
 - Low levels of residual stress
 - Can be a drop-in replacement for PC, PMMA, and PC/Polyester with minor or no modifications

In-mold decoration (IMD)

- The IMD process is a versatile and economic method of decorating and manufacturing higher value durable plastic parts. In products such as mobile phones, appliances and medical devices, generally IMD is used to produce thin-wall lenses, windows or covers. For such applications, a clear plastic substrate is molded behind a decorative film or foil. Eastman Tritan™ copolyester represents a compelling new option for the substrate material.

Striking a balance

- As evidenced by the data below, all materials come with tradeoffs. Eastman Tritan™ copolyester, however, represents a unique balance of properties. Tritan™ offers good clarity, toughness, chemical resistance and flow but with melt temperature sufficiently cool enough to avoid ink washout.
- Tritan™ offers this at a cost generally lower than some blended material options.
- Tritan™ boasts inherently low levels of residual stress which suggests it's well-suited for complex designs and shapes.

A new substrate option

Data suggests that Eastman Tritan™ copolyester may be an attractive option that eliminates some of the compromises that are unavoidable with materials such as PMMA, PC and PC/Polyester.

Material	Impact resistance, Notched Izod (J/m) ¹	Light transmission (%) ²	Melt processing temp (°C) ³	Cost
Eastman Tritan™ copolyester	980	91	280	\$\$
Polycarbonate	800	87	290	\$\$
PC/Polyester	830	88	260	\$\$\$
Transparent ABS	100	86	230	\$
PMMA	60	91	240	\$

The value presented above for materials other than Tritan™ are representative of given classes of material and are not intended to represent the performance of a specific product.

¹ASTM D256 @ 23°C

²ASTM D1003

³General recommendations for material type



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