

Panasonic commercializes polybutylene terephthalate (PBT) molding compounds for laser welding

February 12 2016



Panasonic Corporation today announced that it will start mass production of polybutylene terephthalate (PBT) molding compounds for laser

welding in March, 2016, a move that will contribute to the enhancement of long-term reliability and the flexibility of design of automotive switches and sensors.

Currently, processing methods including sealing with packings and bolts, bonding with adhesive agents, as well as ultrasonic [welding](#), are used for the production of automotive sensors. Instead of such processing methods, [laser welding](#) has recently attracted the industry's attention as its high welding strength can shorten the bonding time and increase productivity. However, plastic molding compounds generally used for laser welding have had low laser transmittance, leading to problems with welding strength and waterproof properties. In order to solve these problems, we have commercialized the PBT molding compounds with the industry's highest laser transmittance; they excel in their welding strength and waterproof properties. With these compounds, it is possible to use laser welding instead of the current processing methods, and therefore long-term reliability and the flexibility of design can be enhanced when they are applied to automotive components.

These molding compounds have the following features:

1. The industry's highest laser transmittance, which enables a high welding strength and contributes to the long-term reliability of automotive components.

- Laser transmittance: 72 % (52 % for our conventional products)
- No air leak was found under the air pressure (3 atm) in water after a high temperature high humidity storage test or a temperature cycling test.

2. Stable quality and performance are ensured with low warpage of molded parts, and this contributes to the enhancement of the flexibility

of design of automotive components.

- Warpage: 0.5 mm or less (2.3 mm for our conventional products, 1/4 of the conventional products)

3. Excellent hydrolysis resistance enables the water resistance required for small to large automotive components.

- High strength retention rate after a high temperature high humidity storage test: 94% (50% for our conventional products)

Provided by Panasonic Corporation

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