

## Safe connectors for safe household appliances

### Case Study

Ultramid® B3U50G6, a flame-retardant and glass-fiber reinforced polyamide (PA 6), is the latest addition to BASF's plastics portfolio. The light-colorable grade reliably meets the household appliance standard IEC 60335-1 (glow-wire test, GWIT 800°C at 1 millimeter) and provides a particularly high flowability. The new flame retardant system used in Ultramid® B3U50G6 is not halogen-based and contains no antimony compounds. This allows to achieve good values with regard to smoke density and smoke toxicity as well as to comply with WEEE and ROHS directives.

The new grade is particularly suitable for use in connectors and program switches in unattended household appliances. The household appliance standard IEC 60335-1 raised the requirements placed on plastics to be used in electrical components of unattended household appliances. These include primarily washing machines, dishwashers, tumble dryers as well as stoves and ovens, but also smaller devices fitted with a timer function such as coffee makers.

Ultramid® B3U50G6, which is 30 percent glass-fiber reinforced, achieves the classification V0 (according to UL94) starting at a thickness of 0.8 millimeters. The CTI (Comparative Tracking Index, tracking resistance, IEC 60112) is at 500 V and allows narrow creeping distances between two contacts. Ultramid® B3U50G6 also boasts excellent mechanical properties and is laser-printable when colored in black. The plastic is available right now in commercial quantities; the yellow card has been requested from UL.

