

News Release

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New possibilities for challenging E&E parts with specialty plastic Ultrason[®] D

- **Ultrason[®] D 1010 G6 U40 blend based on polyethersulfone (PESU) shows excellent flowability and stable electrical performance**
- **Sustainability benefit: reduced processing temperature by 12.5% saves energy costs**
- **Design flexibility for sophisticated switches, circuit breakers, sensors, IGBTs and semi-conductor parts**
- **Rated V-0 at 0.4mm (UL 94) and achieving PLC 3 with a CTI of 200V**

For challenging E&E components with special requirements, BASF has now developed the high-flow Ultrason[®] D 1010 G6 U40. The blend based on polyethersulfone (PESU) is optimized to meet special needs for easy injection molding of energy-efficient parts in data and energy transmission, smart electronics and e-mobility. Because of its excellent flowability at lower processing temperatures the new BASF thermoplastic gives manufacturers greater flexibility when designing sophisticated switches, circuit breakers and sensors as well as IGBTs and semi-conductor parts like burn-in test sockets. Ultrason[®] D 1010 G6 U40 shows stable electrical properties at elevated temperatures with a high relative thermal index (RTI) and a higher comparative tracking index (CTI) than polyetherimide (PEI) and polyphenylenesulfide (PPS). With the new blend, injection molders can reduce the melt temperature by 12.5% compared to a standard PESU and save energy costs without compromise on the very good flowability.

Backed by the superior chemical and high temperature resistance of PESU, the new Ultrason® blend combines high stiffness and strength with good electrical performance and ease of processing. It has a better flowability than the standard PESU Ultrason® E 2010 G6 at lower processing temperatures: The low-viscosity Ultrason® D achieves a spiral flow length of up to 3.5cm at 0.5mm thickness with a melt temperature of 315°C and a mold temperature of 160°C. When compared with an unreinforced PESU, the 30% glass fiber-filled grade molded at 360°C shows the same flowability. This enables smaller and thinner parts, saves assembly space and thus leads to greater design freedom for compact electronic assemblies.

The high-flow Ultrason® D 1010 G6 U40 is also characterized by high thermal stability, low water uptake and improved electrical properties like high dielectric strength. It is equipped with a non-halogenated flame retardant and has an excellent electrical RTI. In in-house tests it was rated V-0 at 0.4mm (UL 94) and reached PLC 3 with a CTI of 200V (acc. to IEC 60112). This supports miniaturization of E&E parts by lower creepage and better insulation than PEI and PPS so far used in challenging E&E components.

“If you want to develop energy-efficient electronic devices with special demands on electrical and mechanical performance, then our new Ultrason® D is a clever choice”, says Kazuhiro Kida from global business development Ultrason® at BASF. “It benefits from the excellent properties of our established polyethersulfone Ultrason® E while offering optimized E&E performance, outstanding flowability and the sustainable usage of processing energy. This opens up new possibilities for e-mobility and consumer electronics parts. It also contributes to higher safety for applications with increased voltage and data rates under harsh operating conditions.” Ultrason® D 1010 G6 U40 is part of BASF’s tailored Ultrason® portfolio for the E&E industry: These grades enhance the robustness, durability and reliability of today’s and next generation E&E components to advance digitalization, big data and e-mobility. They are especially suited where other plastics fail to meet increased performance requirements.

Ultrason® is the trade name for BASF’s product range of polyethersulfone (Ultrason® E), polysulfone (Ultrason® S) and polyphenylsulfone (Ultrason® P). The high-performance thermoplastic is used to manufacture water filtration membranes, stylish, durable and safe household and catering applications as well as lightweight

components for the automotive and aerospace industries. Ultrason® brands can substitute thermosets, metals and ceramics in many applications because of their extraordinary property profile.

More information: www.ultrason.basf.com

About BASF's Performance Materials division

BASF's Performance Materials division leads the transformation of the plastics industry by merging sustainability with a competitive edge. Our broad material competencies and product portfolio, backed by deep industry understanding, make us the ideal one-stop-shop. With dedicated material-focused teams and strong R&D power, we deliver industry-leading technologies and expertise to our customers worldwide. Our global network ensures a competitive advantage through superior innovations, regional proximity, and tailor-made solutions that meet local market demands. We are committed to enhancing performance and efficiency across sectors such as automotive, consumer goods, industrial applications, and construction. With BASF, our partners embark on #OurPlasticsJourney towards a more circular and sustainable future. In 2024, the Performance Materials division achieved global sales of €6.8 billion. Join #OurPlasticsJourney on LinkedIn https://on.basf.com/PM_LinkedIn and in our newsletter https://on.basf.com/PM_Newsletter. Further information at <https://www.performance-materials.basf.com>.

About BASF

At BASF, we create chemistry for a sustainable future. Our ambition: We want to be the preferred chemical company to enable our customers' green transformation. We combine economic success with environmental protection and social responsibility. Around 112,000 employees in the BASF Group contribute to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio comprises, as core businesses, the segments Chemicals, Materials, Industrial Solutions, and Nutrition & Care; our standalone businesses are bundled in the segments Surface Technologies and Agricultural Solutions. BASF generated sales of €65.3 billion in 2024. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the United States. Further information at www.basf.com.