Progress beyond

Solvay launches new Amodel® Supreme and Bios grades to support further sustainable innovation in e-mobility

Newly developed PPA solutions designed for high-voltage e-motor and inverter busbars and other demanding components in power electronics

Alpharetta, Ga., November 18, 2021

Solvay is accelerating the pace of providing the automotive industry with an entirely new generation of Amodel® polyphthalamide (PPA) materials targeted at higher demands of performance and sustainability for advanced electrical and electronic applications in e-mobility.

In the Supreme range, Amodel® PPA AE 9933 and AE 9950 have been designed for e-motor and inverter busbars operating at 800 volts and higher. They combine best-in-class comparative tracking index (CTI) ratings with high thermal cycle shock resistance from -40 to 150 °C. As a breakthrough vs. conventional PPA technology, they will also retain their CTI over time even after temporary exposure to peak temperatures above 150 °C.

New halogen-free flame retarded Amodel® Bios HFFR R1-133 and HFFR R1-145 meet with the growing trend of integrating the e-motor, power electronics and the gearbox into one single consolidated electric drive system. With a CTI of >600 volts, heat resistance of >120 °C and excellent dimensional stability, these grades enable the design of highly compact systems using miniaturized components. Moreover, they provide UL94 V0 flammability ratings without the need for halogenated flame retardants. Besides addressing safety concerns in the event of uncontrolled thermal excursion, the halogen-free formulation also minimizes the risk of electronic corrosion.

In addition, Solvay is offering Amodel® Bios AE R1-133, an electro-friendly grade specifically developed for surface mounted data connectors that can be reflow soldered without blistering. Compared to standard PPA, the higher impact resistance and weld-line strength of the material allows designers to further reduce the wall thickness of connectors, saving up to 50 percent in footprint on the printed board and giving more space for other electronic devices.

"Amodel® Supreme and Bios are garnering a high level of interest among designers of e-propulsion systems, including e-motors, power electronics, and electronic coolant pumps. Beyond adding value by improving the thermal and electrical performance of e-mobility components in these systems, the new additions to the Amodel® polymers family are being more widely considered as manufacturers are seeking to meet ambitious sustainability targets," states Brian Baleno, Head of Marketing, Automotive at Solvay Specialty Polymers.

Amodel® PPA Supreme is currently considered the highest performance thermal and electrical PPA on the market, while Amodel® PPA Bios features a partially bio-based long-chain molecular structure with the highest glass transition temperature (Tg) as well as the lowest global warming potential (GWP) compared to incumbent bio-sourced long-chain PPAs.

As part of the company's One Planet commitment to sustainability, Solvay has reduced the CO_2 footprint of Amodel® PPA by 30 percent since 2013, and uses 100 percent renewable energy in the PPA production at its global manufacturing plant in Augusta, Georgia.

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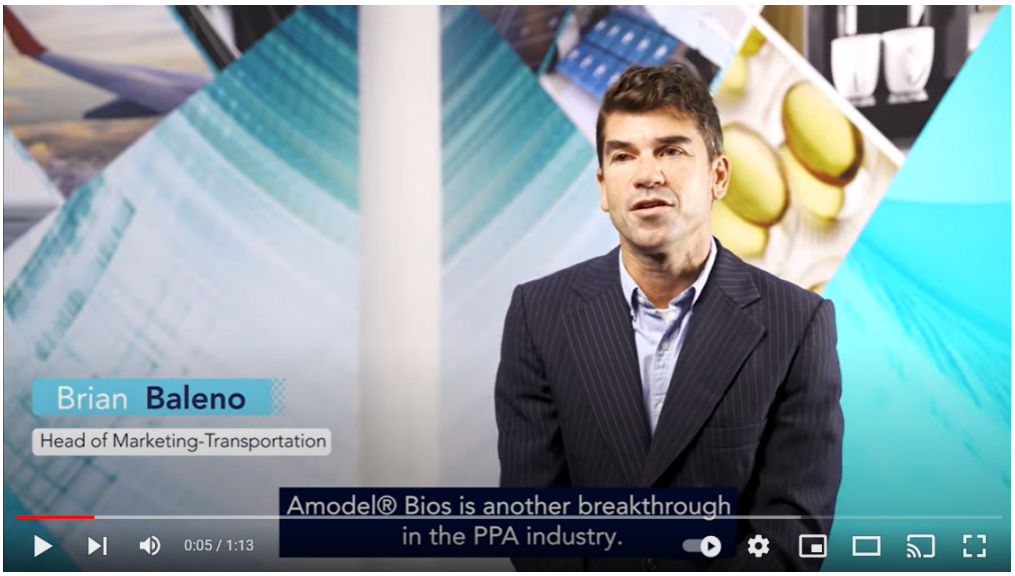

Watch "Enabling sustainable innovation in e-mobility"

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