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PRESS RELEASE

MacDermid Alpha Collaborates with STMicroelectronics to Improve Performance of EV Inverter Assemblies

(Waterbury, CT USA) – Nov 2nd, 2021 – MacDermid Alpha Electronics Solutions, a world leader in the production of electronics soldering, sintering and bonding materials, has announced a cooperation with STMicroelectronics, a global semiconductor leader serving customers across the spectrum of electronics applications, on a key sinter technology for Electric Vehicle inverter assemblies, designed to significantly increase vehicle efficiency and range, and lower production costs.

Sinter technology is changing EV inverter assembly with pressure sintering providing a significantly lower thermal resistance, superior power cycling and mechanical reliability over conventional techniques. ST is offering its STPAK[™] package for automotive traction inverters for assembly directly onto the heatsinks through sintering using ALPHA® Argomax® silver sinter paste. The ALPHA Argomax sinter paste, formulated using highly engineered silver particles, has been specially developed for low-pressure sinter die and package attachment. The paste creates a strong attachment through silver metallic bonds, offering physical strength, unsurpassed electrical conductivity and optimal thermal properties resulting in long-term reliability improvement.

"The collaboration between ST and MacDermid Alpha to develop and refine advanced sintering technology has been extremely effective in producing the perfect combination – STPAK package sintered with ALPHA Argomax", said Edoardo Merli, Power Transistor Macro-Division General Manager and Group Vice President of STMicroelectronics Automotive and Discrete Group.

OEMs manufacturing electric vehicles (EVs) confirmed that the latest drivetrain with sinter technology resulted in 10% improvement in driving range with an overall inverter efficiency of 93%.

"This unique attach process provides an unparalleled level of flexibility, reducing the overall number of power discretes needed and enabling significant cost savings ", said Julien Joguet, Director of Marketing – Power Electronics at MacDermid Alpha. "ALPHA Argomax sinter package and die attach technology, which has already been deployed in more than 2 million electric vehicles, enables manufacturers to produce efficient and reliable electric vehicle powertrains, a key factor in the wider adoption of electric vehicles "

For more information on sinter technology, please visit the MacDermid Alpha website.

About MacDermid Alpha Electronics Solutions:

Through the innovation of specialty chemicals and materials under our Alpha, Compugraphics, Electrolube, Kester, and MacDermid Enthone brands, MacDermid Alpha Electronics Solutions provides solutions that power electronics interconnection. We serve all global regions and every step of device manufacturing within each segment of the electronics supply chain. The experts in our Assembly Solutions, Semiconductor Solutions, and Circuitry Solutions divisions collaborate in design, implementation, and technical service to ensure success for our partner clients. Our solutions enable our customers' manufacture of extraordinary electronic devices at high productivity and reduced cycle time.

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