Silicone enhanced polymer systems

AMPLIFY™ Si PE 1000 Polymer System

There's a lot of talk – and increasing action – around sustainable practices. The building and construction industry is no exception. Homeowners and builders are looking for sustainable and lower-maintenance alternatives to wood for decks, rails, fences, boardwalks, docks and more. Wood plastic composite boards are a great alternative to natural lumber.

Our latest technology brings a new addition to Dow's diverse portfolio of products: silicones. Silicone Enhanced Polymer Systems by Dow help improve process efficiencies by allowing increased recycled plastic content – such as milk jugs, shopping bags, detergent bottles and packaging film – and increased wood content, helping innovate your processes while supporting sustainability efforts.

For manufacturers, these improvements translate to higher production rates, lower reject rates and desired performance properties.

Performance

AMPLIFY™ Si PE 1000 Polymer System is an effective processing aid, reducing melt fracture, torque and melt temperature at low loadings. Figure 1 demonstrates how Wood Plastic Composites (WPC) containing AMPLIFY™ Si (bottom) can substantially reduce melt fracture compared to samples without AMPLIFY™ Si (top). Additionally, Figure 2 confirms the reduction in extruder torque and Figure 3 shows IR images demonstrating the reduction of melt temperature of the extrudate with the addition of

AMPLIFY™ Si PE 1000 Polymer System enables the use of increased levels of recycled plastic and wood content. AMPLIFY™ Si PE 1000 Polymer System improves wood composite manufacturing with:

- Higher throughput
- Lower melt temperature
- Less thermal degradation
- Reduced energy costs and reduced carbon footprint
- Brings desired – or even improved – performance properties

Figure 1

AMPLIFY™ Si. The reduction in melt temperature allows for higher rates and reduced thermal degradation. Molded discs and pellets of compounds show visual difference in color using a metal stearate without AMPLIFY™ Si (left) and with AMPLIFY™ Si (right) (Figure 4). AMPLIFY™ Si PE 1000 Polymer System makes it possible without compromising performance properties. Figure 5 demonstrates the ability of AMPLIFY™ Si to allow for higher production rates and lower reject rates while improving tensile and flex strength. This enables strong, durable wood plastic composite.

Figure 2

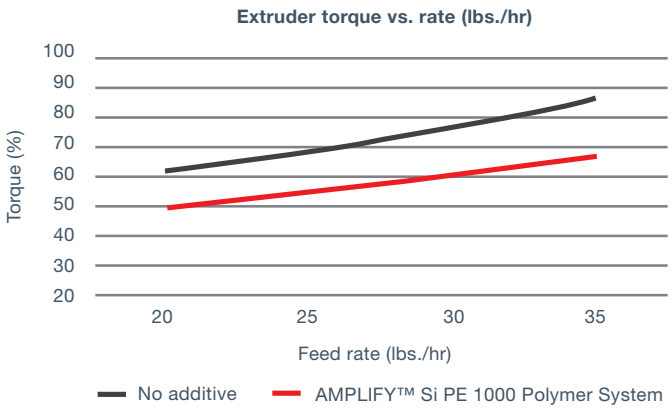


Figure 3

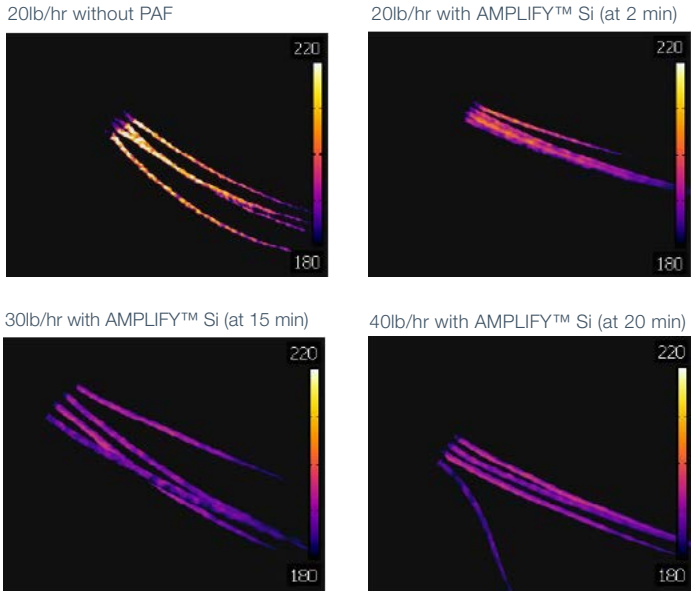
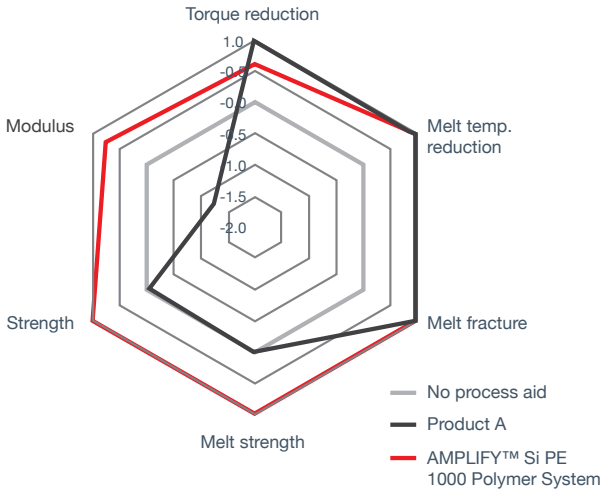


Figure 4

Figure 5



Need more information?

Dow has extensive experience with building and construction solutions. Leverage our expertise to help you determine which materials are best suited to your application. Simply visit dow.com/SEPS to learn how we can help you bring performance and processability to your products.

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Form No.63-6920-01-0820 S2D