

Case Study

Payne & Dolan

Plug & Play Connectors Make Equipment Moves Easy

The plug-and-play capability of MELTRIC plugs and receptacles have made site-to-site moves of conveyors and other electrically-powered aggregate processing equipment much easier for a Wisconsin paving contractor.

Payne & Dolan, headquartered in Waukesha, Wis., is a leader in producing and providing asphalt pavement services and products. The company owns and manages asphalt plants and aggregate sources. This ownership ensures their customers receive the best materials based on their specific needs.

At one of the company's quarries, power for portable crushers and conveyors is provided by a trailer-mounted 725 kW Cat diesel engine through a power distribution panel. Previously, connections between the panel and mobile equipment were made using pin-and-sleeve connectors. However, they were difficult to connect and disconnect. Master Electrician John Schreurs explains, "Sand gets in the threads, so you can't get them apart without a lot of effort. All it takes is a little bit of fine grit, and you can't use them."

Since converting to the MELTRIC plugs and receptacles, Schreurs has found that connections are easy to handle. He says, "They simply twist and lock, so we don't have to worry about threads at all. The twisting motion wipes the contacts, so they are self-cleaning, which is a big advantage in our dusty environment."

The quarry produces washed stone and sand, using three portable crushers and two large permanent crushers. Material is transported via several troughed belt conveyors, including a 1,000-foot unit, a 500-foot, and several 250-foot conveyors. Jaw crushers and portable conveyors alike are connected to the distribution panel.

Schreurs says, "We add conveyors and keep following the material until we get to the property boundary lines." The ease of disconnecting and reconnecting with the MELTRIC devices speeds up and simplifies the moves." According to Schreurs, they are used on all the crushers, screens, and conveyors at the site except for the few that are hard-wired and not moved. Disconnecting power to equipment is a simple operation that is initiated by pressing a pawl on the MELTRIC receptacle, which causes it to break the circuit and eject the plug to its rest position. Then, a simple quarter-turn of the plug allows it to be easily withdrawn from the receptacle in complete safety, since the circuit is completely deenergized. When the plug and receptacle are separated, a safety shutter prevents access to live parts, and a lockout hole on the plug allows for easy lockout/tagout.



Portable conveyors and crushers at this Payne & Dolan aggregate operation are easier to move as they follow the material source because MELTRIC plugs and receptacles simplify power connections.

Easier Moves for Portable Crushing Plant

The safe, durable MELTRIC plugs and receptacles incorporate spring-loaded, silver-nickel butt-style contacts that provide consistently superior electrical performance over thousands of operations. In addition, they're wear- and corrosion-resistant—factors that increase premature failure in pin and sleeve-type devices.

The company frequently uses a portable crushing plant at temporary job sites. While it was recently set up to crush recycled concrete near a repaving project, it's also used to crush limestone and provide crushed aggregate at asphalt plants. "We've moved four times since spring," said a company spokesman at the repaving job site. He explained that it takes about eight hours to set up the plant at a new location. He credits MELTRIC plugs and receptacles for making the multitude of required connections much faster and easier than the troublesome pin and sleeve connectors they used to use.

In addition to increased electrical quality and time-saving ease-of-use, MELTRIC devices provide added safety benefits for workers. MELTRIC products' dead-front construction and enclosed arc chamber prevent workers from accidental electrical exposure. These features ensure increased worker safety in all of Payne & Dolan's applications where MELTRIC plugs and receptacles are used.



This close up shows multiple MELTRIC connections that facilitate ease of moving portable plant components.



A typical portable conveyor setup includes a MELTRIC plug and connector on panel and power cord. MELTRIC's easy twist connection is not affected by grit like the threaded nut on previous pin-and-sleeve connectors.



The portable crushing plant is moved frequently, so speed and ease of making power connections is important.