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A Lesson in Welding Safety with Switch-Rated Plugs and Receptacles

ODESSA, TX – Teaching basic welding skills is only part of the welding curriculum offered by Odessa College. Since welding has the potential for many kinds of safety hazards, the welding students at Odessa College are schooled in workplace safety from the very beginning of their practical training. Reducing the risk of electric shock and arc flash is an important element of lab safety. So, when Jim Mosman, Odessa Dept. Chair & Associate Professor of Welding Technology, was considering different types of power connectors for the Welding Lab's machines, he chose Meltric switch-rated plugs and receptacles. "My reason for choosing the Meltric products was primarily the safety factor of the plug's integral switching mechanism," said Mosman.

Training the Welders of Tomorrow

Established in 1946, Odessa College is a public two-year junior college based in Odessa, Texas, and currently serves about 5,000 students annually in its college and occupational/technical courses. It's been rated as one of the top community colleges in the United States, and has been designated by Achieving the Dream, Inc., as a 2013 Leader College for its success in improving student achievements. Odessa's welding technology program is one of the most successful training programs of the college. It's seen an immense amount of growth in enrollment because of the high job demand for welders in the oil industry.

To meet increased student enrollments, Odessa College was able to obtain funding via a \$68.5 million community bond that was passed by the citizens of Odessa and Ector County in 2010. Approximately \$1 million of the funds were used to remodel Odessa's Welding Training Center: a 12,350 sq feet of welding training area, with 8,630 sq feet of that lab space, which provides welder trainees with four lab areas and 75 welding booths. "As part of the remodeling, we wanted to replace the



Exclusive safety features make Meltric's Switch-Rated plugs and receptacles ideal for connecting power to welding machines at Odessa College.



Changing out welding equipment in Odessa College's welding booths is made easier with Meltric Decontactor switch-rated plugs/receptacles since they feature an integral switching mechanism that allows safe make and break even in overload conditions.

power connectors and outlets that were of varying types to provide consistency for the students,” said Mosman. “And since some of them were clumsy units that had been installed over the last 40 years, we were looking for something that was safe, easy to use, compact and looked good. Meltric met all of our requirements so we purchased 55 plugs for 60 machines, and are very satisfied with their performance.”

Safety is the Top Priority

“At Odessa, safety is the top priority,” said Mosman. “And Meltric plugs make life easier, save time and maximize lab safety.” Jim Mosman has been a welding instructor for 27 years and during that time he’s seen many different kinds of power connectors. “But when I was shopping around for welding machine plugs, and saw Meltric’s connectors in a welding industry trade journal, I was immediately interested. I was looking for something that was safe, but also was easy to operate and aesthetically pleasing. When I got some samples, and tested them, I was immediately sold on Meltric plugs.”

Meltric Decontactor plugs and receptacles have been used for decades in the welding industry because of their switch-rating, making them uniquely designed for safety in a training environment. Meltric’s switch-rated plugs and receptacles combine the safety and functionality of a disconnect switch with the convenience of a plug and receptacle. They are ideally suited for safely making and breaking electrical connections on portable welding equipment.

To eliminate the risk of arc flash and electric shock, the plug seals all the live parts in an enclosed arc chamber shrouded by a safety shutter. Since the live parts are kept from user access, the plug offers the highest level of safety in the welding industry. As a result, students who operate Meltric devices are never exposed to arcing because the plug is always deenergized before it can be removed from the receptacle. The separation of the plug & receptacle provides verification of deenergization so voltage testing is not required. And the receptacle’s safety shutter prevents exposure to live parts and thus simplifies NFPA 70E compliance while eliminating the need for cumbersome PPE to operate the plug/receptacle.

Simplifying Welding Machine Changeouts

Simplifying welding machine changeouts with Meltric devices is a quick and easy operation since an integral spring-loaded switching mechanism does the work to disconnect the plug instead of the operator’s physical motion. To disconnect a Meltric plug and receptacle, an operator only needs to depress the pawl, which releases the energy of the spring-loaded operating mechanism to instantaneously break the circuit and eject the plug to the ‘OFF’ position. The quick break mechanism is automatically reloaded when the plug is re-inserted.



Meltric’s Decontactor plugs and receptacles are an NEC-approved ‘line of sight’ disconnect switch. Depressing the pawl on the receptacle (red dot) breaks the connection and ensures that the plug can be safely removed from the receptacle.



Meltric devices can be configured as in-line connectors or switches, wallbox mounting, or in cord-drop applications.

To obtain a compact, reliable and easy-to-use plug, Meltric Decontactor switch-rated plugs are built with end-to-end contact mating instead of sliding contacts to provide a solid connection; the spring-loading produces optimal contact pressure, which ensures that the integrity of the electrical connection is consistently maintained over thousands of operations. The Meltric plugs are UL/CSA rated up to 200A & 75 hp for 'motor circuit' and 'branch circuit' disconnect switching and are an approved NEC 'line of sight' disconnect switch. They can safely break connections even in overload situations. When used on an extension cord the Decontactor is an inline switch.

"We previously had some connectors that were not always easy to use, which made it challenging because we have to change out welding machines from booth to booth. The changeouts have been simplified with Meltric plugs since they are a safe, efficient switch that's quickly connected and disconnected," said Mosman.



Welding equipment change-outs at Odessa College are simple and safe because the newly installed plugs and receptacles from Meltric protect operators from live parts and arc flash.