

## Featured Company: Modern Tooling Systems

### No Cracks!

Since 1982, Meta-Lax stress relief meant “quality assurance” to **Modern Tooling Systems**, Toledo, Ohio. Specializing in mold manufacturing to 60 tons and trim die fabrications, Modern Tooling applied to most parts, a Meta-Lax stress relief (unless specified otherwise by the customer). Last summer, they expanded their in-house capacities by adding their second Meta-Lax system.

Recently, one of their customers, Eagle Picher, wanted them to build up the bottom shelf of two fairly large personal water craft molds at 25,000 and 35,000 lbs. of P20 material. This was an area  $\frac{3}{4}$  in. deep x 1 in. wide x 6-7 ft. in total length per mold, using 5/32 in. Weld Mold 880 rod. “We were very concerned about cracking,” said Werner Barteck, project manager, “so we immediately planned to use Meta-Lax during all the welding.”

Bruce Kronk, lead welder recalled the difference the Meta-Lax weld conditioning made on the program. “I was able to weld using a lower preheat temperature of 550-600 degrees Fahrenheit instead of 700-800 degrees Fahrenheit. This was nice since it was much easier to maintain consistency in the preheat

temperature throughout the welding. Next, I saw that the weld metal wetted out better, had better weld flow, and the weld pool stayed molten longer.” Bruce explained that when the weld metal was liquid longer, the gasses had more of a chance to escape. “I didn’t notice any porosity,” Bruce said.



**After nearly 80 hours of using Meta-Lax during welding at Modern Tooling Systems, no cracks or porosity were detected.**

**Bottom line – after 70-80 hours of Meta-Lax weld conditioning per mold there were NO CRACKS! “That’s proof positive for me!”** said Bruce.

Good news travels fast. Another customer immediately brought over a mold (Thyssen Super P20 material) that had been attempted to be weld repaired by four different shops without success.

Using Meta-Lax during welding as outlined above PLUS adding a 0.100 in. Uddeholm overlay PLUS chrome plating the finished mold produced a mold that not only looked like new but had NO CRACKS!

From quality assurance for precision milling to quality improvement in welding Meta-Lax is proving itself to be quite a valuable asset.

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