

Featured Company: Build-A-Mold

Weld Cracking? No Problem!

Welding a 10,000 pound platen designed to have virtually no give to it while in the spotting press presents a unique challenge to the fabricator. The platens (eight in total) were constructed in a honeycomb configuration. Weld distortion did not occur from all the one-sided welding. It couldn't. Instead the welds just cracked.

This program was an ideal time to introduce Meta-Lax Weld Conditioning. But first several attempts were made to overcome the cracking

First... preheating was considered, then ruled out. Next... weld rods, welding parameters, and base material were verified by the suppliers as accurate and appropriate for the welding application.

Last... altering the welding process to use three smaller passes instead of one ¾ -inch single-pass and use sequential welding instead of continuous were attempted without success.

"No problem! I've got the solution. I'll be right over."

In a brainstorm session a call went to the customer, Build-A-Mold, Ltd., a large plastic injection mold manufacturer in Oldcastle, Ontario, to ask for their input. The cherry voice of Horst Schmidt, the General Manager, says "No Problem! I've got the solution. I'll be right over."

Horst took with him Build-A-Mold's own Meta-Lax system that they constantly use for the stress relieving of their mold blocks and have been for six years. But he also knew that Meta-Lax could be applied right during welding to condition the work piece from cracking and distortion.



A 10,000 lbs. platen, Meta-Lax Weld Conditioning reduced severe weld cracking.

After Horst set the equipment up he scanned the work piece, identified the sub-harmonic frequency, then told the welder to start welding.

"We had weld without cracking within the first 15 minutes!", said Horst. He also observed "by applying sub-harmonic vibrations to the platen during welding the welder would weld anywhere he wanted. He did not have to wait for the weld to cool and he could forget about any weld lay-down sequence. We could actually see the improvement in the way the weld flowed, even in tight areas. We saw a very fine flow edge with a flatter, smoother bead."

An added benefit we noticed was that Meta-Lax weld conditioning eliminated the need for shot-penning to remove slag.

In avoiding a potentially serious problem Horst simply stated **"we were very successful in achieving weld quality improvement with Meta-Lax."**

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