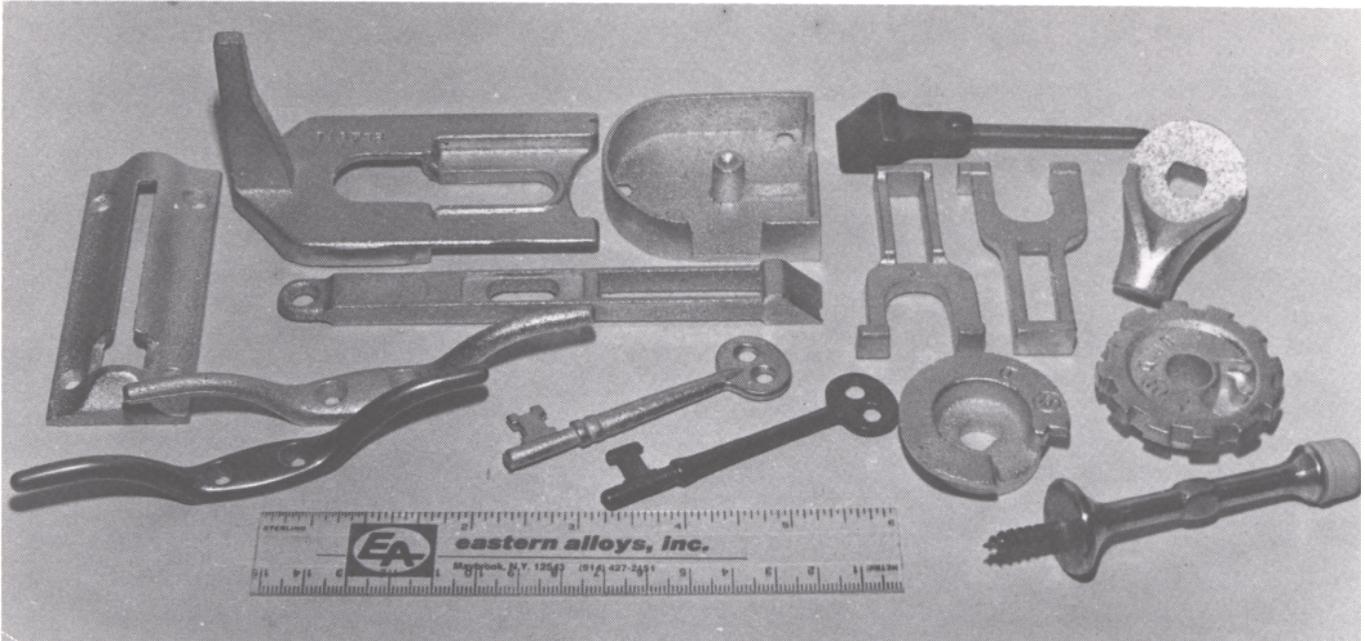


ZA-27 SAND CASTINGS REPLACE IRON AND BRASS HARDWARE



ZA-27 slashed costs and improved performance of these typical small parts formerly made of cast iron by Safe Hardware Corporation. Items shown include components of a door closer, internal lock units, chain bolt, door stop and skeleton keys.

Safe Hardware Corporation, Subsidiary of Emhart Industries, Inc., Lancaster, PA, is now producing dozens of components in the new zinc alloy ZA-27 for their line of lock hardware. Each of these parts was originally produced in their captive iron foundry which has been discontinued. The parts were then produced inhouse as brass or bronze sand castings until their recent conversion to ZA-27. The ZA-27 castings were made with no changes in pattern equipment. Most of the parts comprise important functional components of a door closer and mortise lock assembly; others are keys, chain bolts, line cleats, air cylinder caps and door stops.

Dave Sainz, Plant Manager at Safe, says, "I was originally attracted by the excellent mechanical properties-strength and hardness - at a 50% material cost savings. The interesting thing is that's just how it worked out." Dave wasn't just guessing, either. He had prototypes of many of the components destructively tested at the Hardware Division labs in Berlin, CT. The ZA-27 parts met or exceeded requirements in every case, and were clearly superior in strength to the brass or iron in several cases.

Mike Conlin, Safe Hardware's Plant Accountant, has verified 50% material cost savings versus brass and bronze, too. Mike and Dave realize there are additional cost savings being obtained (fuel, crucibles, scrap, finishing, etc.), but they haven't quantified these yet.

Safe Hardware is very satisfied with the strength (60,000 psi) and hardness (100-120 Brinell) of their ZA-27 castings, but how about the other properties important to

them? Here are some quotes from Dave Sainz and Phil Conlin, Superintendent.

How about machining?

"Very good except for an occasional problem with stringy waste in a blind recess."

How about plating?

"Excellent! Many of our castings are brass plated, others are chrome plated. No problems"

How about casting in the foundry?

"Very easy to handle. Nice low melting point (979°F) and easy to cast in thin sections."

For Safe Hardware and Hardware Division, Emhart Industries, Inc., this is just the

beginning for zinc sand castings. Dave Sainz envisions other applications within their product lines which will soon double their annual usage and cost savings. Hardware Division, having tested the alloy in their labs, is now evaluating which of the three alloys available-ZA-12, ZA-27 or ZA-73 fits which component in their extensive line of lock hardware products.

Eastern Alloys is convinced that these zinc alloys have a great future because they can help manufacturers like Safe Hardware provide superior products at lower costs.

Also, the foundry industry has been undergoing severe pressures for years now and changes are resulting. Iron foundries in particular have been hard hit and most of the ones that are left have mechanized and/or automated to an extent that makes short-run orders uneconomical. This has led users of short-run iron castings to look to alternate materials to fill their requirements.

Until recently the best alternatives were aluminum or copper-base sand casting alloys. Now, however, a family of zinc alloys is available which is more suited to replacing iron in sand castings than either aluminum (too light, soft, weak) or brass and bronze (too soft or weak, costly).

If you are interested in the new "ZA" family of zinc sand-casting alloys and want literature or personal technical service, please contact us. That's our business.



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