

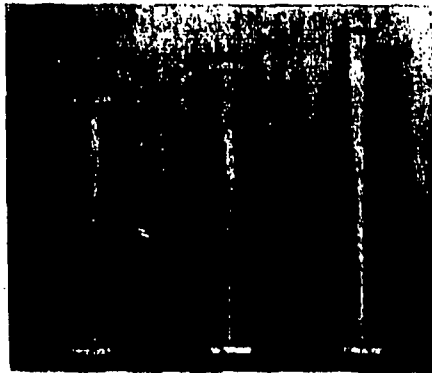


Figure 10

blocks to support our heaviest die weights. If this could be accomplished the old method of having to use four heavy black pipe or steel blocks in all major presses would be obsolete.

When these blocks were delivered to us, we questioned the manufacturer as to the compression strength of the one-inch wall block. We found there were no records of an actual physical test made on one-inch wall tubular magnesium safety blocks. There was a calculated estimate, based upon our actual tests of the smaller and thinner walled blocks, but this we considered inconclusive. Accordingly, we decided that further tests were necessary. These new tests were made at the University of Michigan in a compression tester capable of exerting up to 400,000 pounds.

The blocks were:

- 34 inch height — 30 pounds
- 32 inch height — 28 pounds
- 30 inch height — 26 pounds

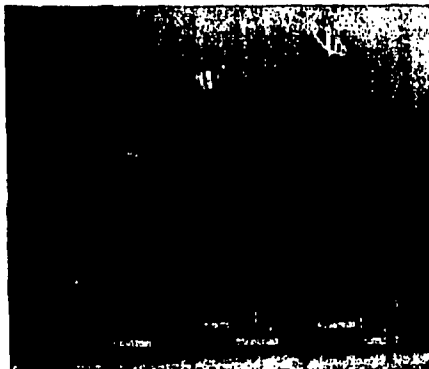


Figure 11

Figure 11 shows the one-inch wall thickness blocks after the test. Note the 45-degree shearing angle resulting from the tremendous pressure to which these blocks were subjected. The shearing action took place at the bottom of the safety block.



Figure 12

Figure 12 shows the 45-degree angle shearing break. These blocks did not break at the weld as did the smaller one-quarter in. and three-eighth in. blocks shown in the previous pictures.

We had to apply 314,000 pounds on the 34 in. high by one in. wall block to make



Figure 13

it fail (figure 13). There was very little difference in the failure point in the 32-in. or 30-in. high blocks. It is our opinion that two of these powerful yet comparatively light, safety blocks, set at diagonal corners between the dies will support the maximum weight of the blankholder, press ram, and