



## Molding Compound

Icon is made from a proprietary molding compound that was specifically developed for the structural requirements of the shear connector. The compound utilizes 2" long glass fibers and vinyl ester resins.

This combination of materials makes for a

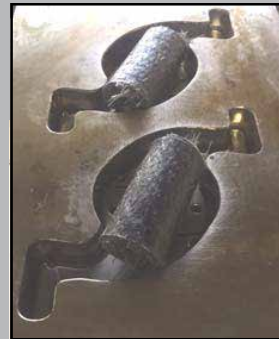
- strong,
  - tough,
  - alkali-resistant,
  - composite,
- shear connector.



*Icon sample after burn out test. (shows glass fiber distribution)*



*Icon molding material in tensile testing machine*



## Material Testing

Extensive testing of the material properties was conducted to assure long term resilience of the product.

## Heat Deflection

Icon material was tested per ASTM D 648. The test determines the point at which a material begins to elongate due to heat. The threshold for acceptance is 66°C (150°F). The Icon material did not begin to elongate until it reached 200°C (392°F).

## Alkali Testing

ASTM C 581 tested the long term effect of a wet and alkali environment. 20 specimens were tensile tested at 1000 and 3000 hours after being immersed in both a water bath and PH=12 alkali solution. The test allows a 15% average strength reduction at 3000 hours. The Icon material had a maximum 2.1% reduction vs the control samples with most of the aged results actually increasing in strength due to continued curing of the epoxy resin.

## Long Term Ambient Temperatures

A test was conducted to evaluate the long term effects of elevated temperatures. The test specimens were heated for 1000 hours at 150°F. The test for elevated temperatures had no detrimental effect on the Icon material. In fact, the specimens increased in strength an average of 2.9% due to additional curing of the epoxy compound.