



Heartland Science



Ohio's Legacy of Discovery & Innovation



Materials

From Pottery to Plastics

All the Windows in the World

Harold McMaster and Norman Nitschke founded GlassTech Corp. in Perrysburg, Ohio, and invented a machine for making high-quality, tempered, break-resistant glass that is five times stronger than regular glass. The secret to tempered glass? When tempered glass breaks, it crumbles into bits less likely to cause serious cuts.



Glass is Stronger Than Steel

Based on its molecules alone, glass is a material five times stronger than steel. Defects, bubbles, and other irregularities that develop during production make glass weaker in the real world. For centuries, people strove to develop a way to form glass that lived up to its molecular promises.



The research and development team at Glasstech Inc. solved the problem. The resulting glass was not only extremely clear, but was the world's strongest. In addition to being acclaimed inventors, McMaster and his partners were smart business people as well. They received an ongoing royalty from glass produced by every machine they manufactured. They shared the wealth, however, and over the years have donated millions of dollars to northwest Ohio institutions including Defiance College (site of the McMaster School For Advancing Humanity), the University of Toledo, and the Medical College of Ohio.

Tempered Glass is Everywhere

Now, tempered glass is essential for windows in skyscrapers, automobiles, and other applications where huge broken panes of glass would cause significant damage. An estimated 80% of the world's automotive glass and about half of all architectural glass is manufactured using the company's machines.



McMaster also developed advances in the process of coating glass with photosensitive chemicals for use in solar cells, for converting sunlight into electricity. He had over 100 patents related to glass, rotary engines, and solar energy. In 1984, McMaster formed Glasstech Solar, Inc., to develop a more efficient solar cell.

In 1991, McMaster joined Thomas Edison and tiremaker Harvey Firestone as an inductee into the Ohio Science Hall of Fame.

Find out more...

- [McMaster Motor - Profile of Harold McMaster](http://www.mcmastermotor.com/man.htm)
(www.mcmastermotor.com/man.htm)
- [About Tempered Glass](http://www.alumaxbath.com/tech/tgp.htm)
(www.alumaxbath.com/tech/tgp.htm)