THE PHOENIX AWARD® COMMITTEE

2003 PAC Winner

John T. Brown

John T. Brown began his career as an engineer in 1963 with Corning Glass Works, now Corning Incorporated, in the Melting Technology Department of Technical Staffs Division. He worked with plant melting problems as a petrograher, with furnace repair inspection, refractory testing and plant melting service responsibilities.

As a liaison with Research, he participated with development of the galvanic oxygen reboil theory and implemented the practice in several glasses, most importantly fusion glass for automotive windshields.

In 1969 he transferred to the Electronics Products Division, with three plants, to lead the product development group located in Bradford, PA. There he led a group of engineers and technicians in developing very low ohm resistors that were the basis of AT&T's first touch tone telephones.

John's team also developed new UV cured coatings that allowed manufacturing of precision resistors to increase from 70 per minute to 700 per minute, as well as a series of sensors and actuators for the automotive industry.

In 1974 he returned to corporate development to work with a new acquisition, Zircoa. He developed several methods to apply platinum coatings on a partially stabilized zirconium (PSZ) and to define the ionic oxygen carrying characteristics of the material.

Using the PSZ material and precious metal coating techniques developed by John and his team resulted in sensor survival in automobile exhausts as well as boilers and glass furnaces.

Following the oil embargo in 1975, Corning was selected by the government as a benchmark company for the Glass Industry to measure the reduction of energy. John was responsible for the melting side of Corning, which represented 90% of Corning's energy use.

John helped lead the effort to develop measures to compare furnaces of different life, pull, cullet ratio and electric boost. With these numbers, better planning and realistic return on investment could be employed in furnace repairs.

The data showed that the majority of energy in regenerative furnaces was lost through the large ports and crowns. Oxy/fuel firing had been suggested but previous trials had ended in disaster. By eliminating water cooling and using high temperature zirconium as a burner block, the most serious drawbacks of breast wall and crown damage were eliminated.

Brown's Corning team developed individual oxygen and fuel flow controls that could be made to be non-linear, accommodating all firing conditions.

After converting most of Corning's furnaces, the process was shared with the glass industry. Today, nearly all types of furnaces have successfully demonstrated conversion.

For the last ten years of his career he returned to Research working on new combustion systems and manufacturing processes for fiber, photonics and high-purity silica products.

After nearly 40 years with Corning John began a second career as technical Director of the Glass Manufacturing Industry Council (GMIC) in August of 2002. His approach to life continues to be one of continuous learning and investigation, to find new ways and better ways to solve the challenges of manufacturing glass.

Over the course of his career he has authored and presented over 50 papers and has 15 patents, 12 still active and three currently pending. His contributions, particularly in areas of energy management and oxy/fuel firing techniques have become building blocks for the entire glass industry.

John is married to Margo (Thompson) and they have two sons, both engineers, and an eight month old grandson (potential engineer).

In addition to a love of glass, John has a love of music of all kinds. He is still performing on trumpet with a Dixieland Band, Classical Brass Works, Stage Band and marches with the Community Band. He has recently started taking lessons on the cello.

He is a graduate of The Ohio State University, Bachelor of Ceramic Engineering in 1963 and MBA from Syracuse University in 1972.

John T. Brown was presented with the Phoenix Award at a formal banquet in Corning, NY on September 26, 2003.