

Ames invention enters Space Hall of Fame

Temper Foam, a material first developed by NASA in the 1970s to improve seat cushioning and crash protection for airplane pilots and passengers, was recently inducted into the United States Space Foundation's Space Technology Hall of Fame, Colorado Springs, CO.

Developed at Ames, the material eventually found its way into commercial products such as orthopedic support cushions, operating table pads, ear plugs, football helmets and furniture cushions. The foam is also used in Space Shuttle seats. Temper Foam takes the shape of impressed objects, but returns to its original form even after 90 percent compression.

"I was trying to develop seating for aerospace vehicles so people could better survive any crashes or impacts," said co-inventor Charles (Chuck) Kubokawa of Palo Alto, now retired from Ames. "We crash-tested several seats at the Civil Aeromedical Institute in Oklahoma City to validate them for impact survival, and we found the foam was good for 36 g's. The seat can out-survive the aircraft in a crash."

"If you think about the potential uses for this material for passenger protection and comfort, infant protection and use by handicapped persons, the future for this product is almost unlimited," Kubokawa said.

Temper Foam retains its form in its natural state, but when the material comes under pressure, such as when someone sits on a cushion, it contours to the natural curves of the contacted surface without any pressure points, Kubokawa said. "In other words, the weight is evenly distributed along the contacted surfaces," he said. "If there is an impact, the total surface evenly

absorbs the impact force." The material is also non-flammable, non-toxic and inexpensive.

Dynamic Systems, Inc., Leicester, NC, a private company that produces Temper Foam, for industry, including toy companies.

The Space Technology Hall of Fame was established in 1988 in cooperation with NASA. The U.S. Space Foundation administers the program which honors technologies originally designed for aerospace programs and later adapted for commercial use. The program also recognizes innovators who have transferred aerospace technology to industry.

To date, 27 technologies have been inducted into the Hall of Fame.

NASA actively encourages commercialization of its technologies. To learn more about NASA innovations, commercialization efforts and the agency's technology transfer programs, call 1-800-678-6882 or access

the NASA Commercial Technology Network web page at URL: <http://nctn.hq.nasa.gov/>.

BY JOHN BLUCK



Accepting the award for Temper Foam's Space Technology Hall of Fame induction are: (Left to right) Charles J. Laenger and Dan Bates of Southwest Research Institute; Charles Castellano of Ames Commercial Technology Office, and Chuck Kubokawa, retired Ames project director

Kubokawa is the first Japanese-American to be inducted into the United States Space Foundation Hall of Fame. His co-inventor, Charles Yost, now runs



photo by Roger Brimmer

An ISO flag proudly waves alongside 'Old Glory' in front of the main Ames administration building

ISO countdown begins...

