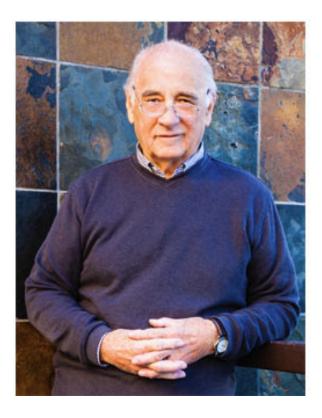
## **Bio of John Ebbinghaus**

In 1973, John Ebbinghaus, while working at Litton Guidance & Control Systems near Los Angeles, was given the assignment to investigate and find the root-cause failure problem that was actually burning up the IMU (Inertial Measurement Unit) while being tested on-board an aircraft carrier.

The root cause of the problem was found to be corrosion of the



power cable connection of the test equipment. This lead to his first formulation of an electrically conductive paste from Prohmtect.com.

The paste solved the immediate problem, but when he submitted it to Litton's patent department, they declined to pursue patenting because the company was not in that kind of business. "They released it to me. But because I had a heavy workload, I didn't really pursue it."

Actually, though, Ebbinghaus would occasionally dabble with his invention, as he worked on the side to package and sell it, developing half a dozen paste formulas between 1973 and 2010. The effort picked up after he retired from Litton in 1989. "Only over the past nine years have I been successful in developing and marketing new products," he reveals.



With his daughter Lisa Rinaldo, Ebbinghaus started a company called Prohmtect USA in Sioux Falls, South Dakota to manufacture and sell electrically conductive pastes. In a unique family-business arrangement, Lisa owns the company, and handles sales, marketing and other duties, and

John, Sr. serves as their engineering consultant. Call it an ideal situation for a retired engineer, a new chapter after a long and fruitful career in the corporate world. Ebbinghaus now lives in Sioux Falls, SD and at 91 enjoys good health. He finds the venture fun and rewarding.

So just what is electrically conductive paste? It's designed to improve the conductivity riveted, bolted, clamped, or crimped electrical connections and protects them in harsh, corrosive environments, saving equipment from costly repairs or down time. Their primary application is currently in fuel cells, electronic score boards and power generation equipment.

Originally dubbed Ohm Killer, the pastes consist of minute micro-sharp metal particles suspended in oil or grease, providing multiple parallel pathways for electrical current in a connection. Ebbinghaus says, "Ours is a special very-high-temperature non-hydrocarbon oil manufactured for use on military aircraft. And that's about as much as I can tell you because it's proprietary material." His selection of materials and development of the processes has proven key to the success of Prohmtect products. All the formulas come in a variety of sizes ranging from 1-cc syringes to 300-cc caulking tubes, and custom blends have been formulated such as our A\*C which contains a special silver powder.

## An early technical start

Having grown up in New Rochelle, New York, Ebbinghaus graduated from a technical-vocational school, where he majored in aircraft mechanics and sheet metal work. He was drafted into the Army in 1944 and spent a couple of years in the Army. When he got out, he attended Clarkson University in Potsdam, New York on the WW-2 GI Bill. He graduated from Clarkson in 1955 with a 4.5-year Bachelor of Mechanical Engineering (BME) degree.

His first job actually came before he attended college, at Litton Adler Electronics in New Rochelle, where they manufactured electronics for the military and commercial TV stations and also built a transportable 50KW transmitter/studio for Radio Free Europe. He worked as the manager of the manufacturing department.

After college, Ebbinghaus' first engineering job came with the Arma Division of American Bosch Arma in Mineola, New York, where he worked on the Atlas ICBM (Inter Continental Ballistic Missile). The inertial guidance system developed there became the first to guide a missile down-range.

That helps explain how a mechanical engineer like Ebbinghaus ends up working in the realm of electronics. "Every electronics device requires a mechanical engineer," he states. "I consider myself an electromechanical engineer because I've worked on a lot of electronics -- heat transfer, electrical connections, and materials." As Lisa puts it, "My father has had a very colorful career in mechanical and materials engineering." While at Arma, Ebbinghaus worked on a special launch of the Atlas at Vandenburg Air Force Base near Santa Maria, CA.

While at Litton Guidance & Control Systems in Woodland Hills, CA., Ebbinghaus did design and analysis on guidance systems used in aircraft, missiles, re-entry vehicles, submarines, helicopters, tanks, and surveying equipped Humvees and served as manager of mechanical engineering department for factory and customer test equipment. He was also assigned as a reliability project engineer for tracking and improving the reliability of inertial navigation systems used by Navy aircraft such as the F-14 fighter and cruise missiles.

Ebbinghaus' latest invention is an electrically conductive lubricant that is designed to provide anti-wear and corrosion protection properties to the battery charging equipment used to charge the batteries of electric vehicles, EV's. The new paste is identified as EVerlast-A. The new product is designed as a dynamic lubricant for low velocity moving parts such as power connectors that require frequent and numerous insertions.