



Change is in the Air: Revolutionary New Metal Coating Goes Global

August 27, 2004

BOZEMAN, Mont. – Swimming pools, window frames, aircraft, wheels, bicycles, and fasteners – what do they all have in common? They're made of aluminum or zinc coated alloys, metals which require a protective coating to prevent corrosion and help paint stick to their non-adherent surfaces. However, the protective coating that has traditionally been used is known to be highly toxic, carcinogenic, and hazardous to the environment. Enter a group of U.S. Navy scientists, who have invented an environmentally benign and highly effective coating, and a German company, SurTec International, which has licensed the rights to make, sell, and use the coating in the North American aircraft, automotive, hardware, and construction industries..

"This is a completely new product that has the potential to revolutionize several industries," said Nabil Zaki, Director of Worldwide Technical Marketing in New Jersey. SurTec International, GmbH of Zwingenberg, develops, manufactures, and sells metal finishing products globally. "The Navy's trivalent chromium conversion coating is a good fit with our own proprietary environmentally safe metal finishing technologies and we are excited to bring this innovation to market," said Zaki.

Several years of research and development at the Naval Air Warfare Center (NAVAIR) in Patuxent River, Maryland, resulted in the issuance of four patents generally referred to collectively as trivalent chromium pretreatment and post treatments (TCP). To improve the corrosion resistance and bonding of paints to aluminum alloys, anodized aluminum, and sacrificial coatings, a surface treatment is required. A class of chemicals called conversion coatings is used for this purpose. For over 50 years, the standard treatment for military and industry has been hexavalent chromium, the highly toxic cousin of TCP.

There are many benefits to TCP. It is the only non-hexavalent chromium conversion coating that will fully meet all of the military specifications for pre and post treatment of aluminum. It also is a more environmentally benign coating than highly toxic hexavalent chromium, without sacrificing corrosion resistance or other performance standards. An additional benefit is its improved electrical conductivity that makes it ideal for the electronics and telecommunications industries.

SurTec is particularly well suited to commercialize the Navy's trivalent chromium on a global basis. The process will be available through various SurTec divisions worldwide under the trade name ChromitAL TCP.

The TechLink center, a Department of Defense (DoD) funded technology transfer agent, assisted SurTec and the Navy through the licensing process. TechLink will also help the company transition TCP to the DoD for use, for example, in the Navy/Marine Corp's Advanced Amphibious Assault Vehicle program, which specifies the use of a



non-hexavalent chromium conversion coating. Currently, TCP is the only non-hexavalent conversion coating that can meet these specifications.

About SurTec International

SurTec International GmbH is a privately owned holding company located in Zwingenberg Germany. The SurTec group of companies and partners covers geographical areas worldwide throughout Europe, Asia, Australia, America, and Africa. SurTec is a supplier to the metal finishing industry. An important aspect of its core product range is its focus on environmentally safe technologies. SurTec developed the first commercial Cr(6) free passivation for zinc 20 years ago, well before leachable Cr(6) became regulated. "Chromiting," its flagship "thick layer passivation process," was introduced before ELV directive was passed into law in 2000. "Chromiting" is today a benchmark of the industry for automotive applications.

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