

# Anoplate Has “The Scoop” On Mars



Syracuse, NY (June 12, 2008)

When NASA’s Phoenix Mars Lander started sampling the surface of Mars in early June, the first thing to contact the icy soil was a protective coating provided by Anoplate Corporation of Syracuse, NY. The aluminum sampling scoop, referred to as the ISAD (icy soil acquisition device), at the end of the Phoenix Mars Lander’s robotic arm incorporated Anoplate’s hardcoat anodize to maximize abrasion resistance and prevent soil samples from becoming contaminated from the otherwise bare, unprotected aluminum. The robotic arm used the ISAD to dig a trench deep enough to access layers of potentially water-ice bearing soil. This icy soil was obtained using a high speed rasp device housed within the ISAD scoop. The soil was then transferred to the Thermal and Evolved Gas Analyzer instrument onboard the spacecraft for chemical analysis.

When Honeybee Robotics of New York, NY, approached Anoplate about anodizing a one-of-a-kind robot component late in 2006, Anoplate engineers had little idea where their discussions would lead. The initial inquiry included an exotic assortment of finishes and colors that while pretty were not realistic. After consulting with Anoplate engineers, a workable solution was arrived at featuring extensive use of Anoplate’s hardcoat anodize. This type of anodize electrochemically converts aluminum surfaces into a ceramic-hard, aluminum oxide. Similar hardcoat anodize coatings are used on rollers in copying machines, automotive pistons, aircraft landing gear, and aluminum pots and pans.

Since 1960 Anoplate Corporation has provided surface engineering solutions to industrial manufacturers worldwide to overcome the rigors of corrosion, friction and wear. As an ISO 9001/14001 registered and Nadcap accredited firm, Anoplate is committed to serving its customers, employees and community with quality electroplating and anodizing services performed in an environmentally responsible manner. Contact Anoplate for engineered solutions to your product’s surface requirements in the medical, defense, aerospace, computer, electronics or mass transit industry.

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This image released by NASA June 6, 2008 was taken by NASA's Phoenix Mars Lander's Surface Stereo Imager on Sol 11 (June 5, 2008), the eleventh day after landing. It shows the Robotic Arm scoop containing a soil sample poised over the partially open door of the Thermal and Evolved-Gas Analyzer's number four cell, or oven. Light-colored clods of material visible toward the scoop's lower edge may be part of the crusted surface material seen previously near the foot of the lander.

Photo credit: NASA/JPL-Caltech/University of Arizona/Texas A&M