

CORROSION RESISTANT, CHROMATE-FREE CONVERSION COATING FOR MAGNESIUM ALLOYS

ABSTRACT

A chromate-free, phosphate-fluoride conversion coating, with or without vanadate, formed on a magnesium or a magnesium alloy substrate, includes an active corrosion inhibitor selected from the group consisting of organo-phosphonic acids. The phosphonic acid group reacts with the magnesium metal of the substrate to form an insoluble salt.