

Title (en)
SYSTEMS AND METHODS FOR TREATING A METAL SUBSTRATE

Title (de)
SYSTEME UND VERFAHREN ZUR BEHANDLUNG EINES METALLSUBSTRATS

Title (fr)
SYSTÈMES ET PROCÉDÉS DE TRAITEMENT D'UN SUBSTRAT MÉTALLIQUE

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Abstract (en)
[origin: WO2021071575A1] Disclosed herein are systems and methods for treating a magnesium or a magnesium alloy substrate. The system includes a cleaning composition having a pH greater than 8.5 or a solvent, and a pretreatment composition comprising an organophosphate compound and/or an organophosphonate compound. The method includes contacting a substrate surface with the cleaning composition or the solvent, and contacting the surface with the pretreatment composition. Also disclosed are substrates treated with one of the systems or methods. Also disclosed are magnesium or magnesium alloy substrates wherein, between the air/substrate interface and 500nm below the air/substrate interface (a) oxygen and magnesium are present in a combined amount of at least 70 atomic %; (b) carbon is present in an amount of no more than 30 atomic %; and/or (c) fluoride is present in an amount of no more than 8 atomic %, wherein atomic % is measured by XPS depth profiling.

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