

## HYBRID MANGANATE-BASED CONVERSION COATING ON ALUMINIUM

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### ABSTRACT

This investigation describes hybrid conversion coatings and efforts at reducing the environmental foot prints of chromates. Initial modification of chromate coating solution with tannins/glycerol was patented with number NG/P/2013/755, 2014. The usual mud cracking pattern characteristics of chromate conversion coatings (CCCs) and improved ability to release inhibitors to corroding sites was achieved. Optical microscopy and corrosion tests in high humidity environment showed that the replacement of chromate/tannin with manganate/tannin and or glycerol has improved paint adhesion and corrosion resistance on aluminium substrates.

**Keywords:** Aluminium, manganate/tannin/glycerol, adhesion, corrosion.