



CORROSION CONTROL



# *PROSION* Al-Zn-In METAL SPRAYING

“BRIDGING THE GAP BETWEEN ALUMINIUM AND ZINC”



CORROSION CONTROL

## Metal Spraying

Metal spraying is the process of spraying molten metal onto a surface to form a coating. This is achieved by melting either pure or alloyed metals in a flame. The molten metal is then subjected to a blast of compressed air which has the joint effect of creating tiny droplets of metal and projecting them towards the surface to be coated.

The end result is a solid metal coating on the surface to be treated. The thickness of the coating is dictated by the number of layers applied.

Metal spraying is a long-standing method for applying sacrificial coatings with either zinc or aluminium being sprayed. Aluminium forms a good, hard barrier but sometimes goes passive in mildly corrosive conditions but Zinc forms a very poor barrier to erosion or mechanical damage but almost always behaves sacrificially.



**PROSION**, a new alloy of Aluminium, Zinc and Indium (Al-Zn-In) has recently been developed to bridge the gap between Aluminium and Zinc and also to take advantage of the following:

- 95% of the material is aluminium so that the density is still only 40% that of zinc.
- The sacrificial reaction involves the loss of three electrons as with pure aluminium.
- If anything, the alloy is harder than pure aluminium which is harder than zinc.
- The combination of small amounts of zinc and indium keeps the alloy sacrificial in the presence of chloride ions.
- Al-Zn-In anodes have been used successfully for many years in marine environments.

**PROSION** makes metal spraying an ideal solution for corrosion of steel reinforcement in concrete where an electrolyte (such as salt water) can leach into the structure as well as atmospherically exposed steel structures.

*See technical data sheet for wire diameters and supply forms.*

### BAC CORROSION CONTROL LTD

Stafford Park 11, Telford, Shropshire, TF3 3AY, UK

Tel +44 (0) 1952 290321

Fax +44 (0) 1952 290325

Email: [sales@bacgroup.com](mailto:sales@bacgroup.com)

Website: [www.bacgroup.com](http://www.bacgroup.com)

