Metallisation
Thermal spray equipment and consumables

Protection against corrosion. The benefits of sprayed metallic layers

Application Data Sheet AC-AC-001

01. There is almost no limitation on the size of component or structure which can be treated.

02. The materials are simple to apply using Metallisation combustion flame or electric arc spraying equipment. Operators can be trained in a relatively short time and, with a small amount of practice, are capable of producing consistently sound and even coatings on properly grit blasted surfaces.

03. Where large areas or large numbers of components are to be sprayed, the Metallisation wire fed spraying equipment is easily mechanised or fully automated. Both the combustion gas and electric ARC spraying systems have efficient stop/start devices for production economy.

04. The process itself is simple involving only two or three stages. Spraying is preceded by grit blasting and may be followed by sealing of the deposit. This simplicity makes quality control relatively easy and offers fewer stages for errors to occur.

05. Sprayed metal coatings may be handled immediately after treatment. There are no protracted drying times and factory floor space can be more efficiently utilised.

06. Properly applied sprayed metal coatings are more robust than paint systems and are consequently able to withstand rougher usage.

07. Sprayed zinc, aluminium and associated alloy coatings give long lives in most naturally occurring environments. (See Application Data Sheet AC-AC-002 for more detail). Ten years to first maintenance is common and over twenty years may be readily achieved with the appropriate system.

08. There is no distinct limit to the thickness of sprayed coatings. Zinc may be sprayed to over 3mm and, unlike galvanising, thickness may be varied from place to place to provide protection in critical areas.

09. Metallisation zinc, aluminium and associated alloy spraying wires are of consistent quality and purity. Properly stored, shelf life is indefinite, there are no settlement problems as may be experienced with powder spraying materials and no mixing as required with paints.

10. Even if a sprayed deposit is locally damaged, the sacrificial action, particularly of zinc, prevents corrosion from edges and discontinuities. It may also delay the onset of rusting of structures which have been neglected.

11. Although bare metal sprayed coatings give long lives, they may be sealed to extend the life time or enhance the visual appearance.

12. The surface being sprayed remains cool. Consequently there is no risk of heat distortion or metallurgical degradation of load bearing steel structures. Sealed tubular or hollow sections can be coated externally without danger.

13. The sprayed metal surface maintains the efficiency of friction grip areas and ensures their effectiveness throughout the life of the structure.

14. Thick anti-corrosive paint systems are generally unnecessary, but the texture of 'bare' sprayed coatings provides an excellent 'key' for subsequent paint treatment. In most cases, where the sprayed metal is properly sealed, these need only be applied for decorative purposes.

15. The nature of the equipment makes it ideal for either factory or site application and coatings can be deposited in ambient conditions totally unsuited to other methods of protective treatment.