Editorial

ALUMINIUM IN METAL FINISHING

THE rise in the production and consumption of aluminium in recent years has had its strong impact on the metal finishing industry. The finishing of aluminium — anodizing, conversion coating, painting, and enamelling, has now become quite important in practically every branch of industry. The plating of aluminium and the production of aluminium coatings have also acquired considerable significance. In 1961, two International Conferences on Anodizing were held, and 1963 witnessed a Conference in Budapest on aluminium semi-finished and finished products.

Aluminium is being used in most motor car producing countries for decorative trim because its cost is significantly lower than either chromium plated steel with nickel undercoat or chromiun plated brass. There is, however, an urgent need for a comprehensive and realistic comparison of the durability of nickel-chromium plated steel and zinc base die castings with anodized aluminium in outdoor exposure.

A new electrophoretic method has been developed in the U.K. to provide a material that retains the corrosion resistant properties of conventional aluminium coatings without incurring their disadvantages. It has been recently announced that hot-dip aluminized steel sheet can be supplied from a new continuous plant, the product possessing better ductility and adhesion of the coating. The 'Bondal' dip-type pretreatment processs simplifies the electroplating of aluminium and its alloys. It is claimed that the application of this method extends over the entire field of decorative and industrial deposition. The new technique developed in the USA provides an adherent and attractive chromium plate on aluminium. It comprises alternate "on time" deposition and "off time" non-deposition steps. The resulting crack-free chromium plate is smooth and semi-bright and light buffing brings it to full brilliance. The corrosion characteristics appear to be quite good.

A rapid method of hard coating aluminium parts has been described from the USA, and challenges older methods with greater electrical efficiency, reduced refrigeration requirements and lighter colour of the end product. Architectural anodizing presents many difficulties, the most important being durability. It has grown so fast that research both on the choice of the process and the properties of the coating has yet to catch up. The interest in the field of anodizing has stretched to automatic plants.

It is clear that this field is quite versatile and holds reasonable economic possibilities. It is of particular interest in India where it is very necessary that aluminium should be used as much as possible in place of steel and the non-ferrous metals.

—T.L.R.