

**Metallizing, types, principles equipments, their advantages and its application**

**Objective:** At the end of this lesson you shall be able to

- **explain the purpose of metallizing in various process.**

**Definition**

Metallizing is a very common coating process which is used to improve the resistance of material agent/against corrosion, wear and fatigue.

Metallizing is the general name for the technique of coating metal on the surface of objects. Metallic coating may be decorative, protective or functional.

**Types**

Metallizing can be done by following

- 1 By electric arc spray process
- 2 By spray process
- 3 By thermal spray coating

**Application**

- 1 Arc metalizing of products that will not corrective or rust proof
- 2 A steel structure protected by metalizing.
- 3 To improve the resistance of the material against the corrosion.

## Principles of operations and applications

**Objective:** At the end of this lesson you shall be able to  
• describe the manual powder coating process.

### Principles of powder coating

The powder coating process is very similar to a painting process except that the paint is a dry powder rather than a liquid.

The powder sticks to the parts due to electrostatic charging of the powder and grounding of the parts.

Any substance can be used that can tolerate of the heat of curing the powder and that can be electrically grounded to enhance charged particle attachment. The powder flows and cures during the application of heat.

### Advantages of powder coating

- 1 Powder recovery for reuse
- 2 Expenditure will be less
- 3 Can be more durable than paints
- 4 Easily can do a work

Disadvantages of powder coating over paints are

- 1 Can have less leveling than paint
- 2 Curing is similar, typically more energy intensive than paint drying due to higher temperature requirements.
- 3 Difficult to set a certain plants.

### Operations

- 1 Cleaning
- 2 Rinsing
- 3 Phosphating
- 4 Drying
- 5 Powder coating
- 6 Curing

### Uses of powder coating operating wings

- 1 Railway factory
- 2 BEML factory
- 3 Dozer can be painted
- 4 Complicated parts are to be painted
- 5 Used in large scale industries
- 6 Maintenance of fabricated parts.

