Coatings

- Introduction
- Can be divided broadly into two:-Organic and Inorganic.
- Inorganic coatings are sometimes referred to as Engineering coatings
- Examples are: Chromating, Phosphating, electroless deposition of Nickel, electrodeposition of chromium, galvanising etc.
- Chromating, phosphating and electroless Nickel are called conversion coatings. WHY?

Organic coatings

- Organic coatings are derived from, binder, solvent, colourants, fillers and minor additives.
- The chemistry of the binder determines the properties of the coating.
- Binders are organic polymers e.g. epoxy, chlorinated rubber, polyurethanes, alkyds, polyvinyl chloride, bitumen etc.
- Solvents are diluents, colourants give colour, fillers give bulking properties.
- Mix the constituents together in a certain ratio to obtain coating.

Corrosion and coatings/paints

- Improper surface preparation accts for 80% of metal/coating failures.
- Hot rolled steel-carries mill scale-tripple oxide layer.
- Cold rolled steel, carries oxide layer of Fe_2O, 400nm thick + oil/grease
- Rust, the product of iron/H_2O interaction, may contain, chlorides, and sulphates depending on the environment.
- All these are not recommended to be coated/painted over.
- They must be removed b4 coating/paint application.

Surface preparation b4 painting

- Methods are: Wire brushing, Sand blasting, Wet blasting, Grit blasting etc.