**PROCESS DESCRIPTION**

- **BLASTING OF BARS:** Reinforcing steel is blast-cleaned to a near white metal finish using abrasive material (shots & grits) in Shot Blaster.

- **HEATING OF BARS:** The blasted bars are heated to required temperature specified by the Epoxy powder manufacturer (around 230°C) by passing them through an electric induction heater.

- **COATING OF BARS:** The heated bars are then passed through an Epoxy coating booth where epoxy powder is applied electrostatically. When the dry powder touches the hot steel, it melts, flows, quickly gels & polymerizes as a film (200 –300 µm thick) on the reinforcing bars while the residual heat cures the coating. All over - sprayed powder is recollected & automatically recycled.

- **COOLING OF BARS:** The coated bars after curing are passed through a cooling tunnel, where water is sprayed on the bars to cool them.

View Mitsuba FBE Rebar Plant on youtube: [https://youtu.be/_Rp_hpforbl](https://youtu.be/_Rp_hpforbl)

FBE Coating is as per ASTM 775a. Ensuring highest quality standard while coating.
RE - BAR POWDER SPRAY SYSTEMS

POWDER COATING PROCESS

REBAR POWDER COATING

- Shot Blasting / Surface Cleaning
- Induction Heating
- Powder Coating
- Water Quenching
- Testing
Mitsuba has huge experience in FBE Re-bar coating. All the current plant in India use Mitsuba FBE coating system.

TMT bar with fusion-bonded-epoxy coatings provide optimum corrosion protection for steel-reinforcing bar thus extending the service life of the structures.

Reinforcing steel coated with FBE has been in use in concrete structures for over 30 years, and is installed in more than thousands of structures.

Fusion-bonded epoxy coating principally protects against corrosion by serving as an electrochemical and a physical barrier that isolates the steel from the oxygen, moisture, & chloride ions that cause corrosion.

The superior corrosion protection extends the life of the Epoxy coated TMT based structure, resulting in significantly lower life cycle costs over time. No maintenance is required, which also can lead to substantial savings in all round costs.
Mitsuba produces Special Powder Gun system suitable for FBE coating on Re-Bar. A most well balanced and efficient powder gun constructed from wear-resistant material, specially rounded to prevent impact fusion and thus provide a smooth uninterrupted flow for continuous 24 hours operation, seven days a week.

Real Time Siever integrates a unique sieve with anti blinding mechanism, built in the powder pump itself. The self cleaning online siever produces a cloud with distinctly individual powder particles from two or three lumped powder particles which thereby get more efficiently charged....the result consistently uniform finish and superior deposition efficiency with substantially less over spray and even coating on spiral ribs.

FEATURES OF DIGITAL SYSTEM

- Upto 100 programs can be preset in the normal automatic systems.
- Adjust both kV & microamperes to ensure coating free of holidays.
- Unmatched level of ease with touch control for voltage, current, powder and air.
- Just 1 Touch can adjust all guns or only desired guns for uniform powder flow & perfect high voltage levels. So for example if you shift from coating 8mm bar to coating 25mm bars, all settings including powder flow & kV can be adjusted with only one touch.
POWDER SPRAY SYSTEMS
SPECIALY DESIGNED FOR FBE RE-BAR COATING

- Mitsuba offers high efficiency Automatic Electrostatic FBE Re-bar coating Powder Spray system.
- Mitsuba's Powder Spray Booth are designed in Stainless Steel / Epoxy Coated steel for a clean work environment. OXY Series Filter Cartridge Recovery unit will ensure 99.999% powder recovery efficiency. These are ideally used for rebar powder recovery units.
- Mitsuba Filter Cartridges have the unique Rotating Wing Cartridge Cleaning Mechanism which gives a thorough and even cleaning to your cartridges.
- Bulk Powder Management System is used to automatically transport the recovered powder to the spray hopper via magnetic separator sieving machine. Fresh powder can also be constantly added to the spray hopper in a desired ratio of recovered and fresh powder.

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