



Fusion Bond Epoxy Coating

FBE coating is an industry standard, environmentally-safe thermoset polymer coating which is used as corrosion protection for pipe.

Fusion bond epoxy coating, also known as powder coating or FBE coating, is an epoxy-based powder coating widely used to protect steel pipe used in pipeline construction, piping connections and valves from corrosion. They come under the category of 'protective coatings' in paints and coating nomenclature.

Resin cross-linking, the hardener components and the application method used in the dry powder **fusion bond epoxy coating** do not react at normal storage conditions. At typical coating application temperatures, usually in the range of 180° C to 250° C (360° F to 480° F), the contents of the powder melt and transform to a liquid form. The liquid FBE film wets and flows onto the steel surface to which it is applied and soon becomes a solid coating by chemical cross-linking. This process is assisted by heat and is known as "fusion bonding". The chemical cross-linking reaction taking place in this case is irreversible. Once the curing takes place, the coating cannot be returned to its original form by any means. Application of further heating will not melt the coating and thus it is known as a thermoset coating.

During the FBE process:

- the pipe surface is cleaned and heated
- epoxy powder is electrostatically applied onto the pipe
- the powder melts onto the pipe and quickly dries into a uniform and controlled thickness

Bayou has multiple FBE coating facilities: two in New Iberia, Louisiana and one each in Conroe, Texas; Bakersfield, California and Camrose, Alberta Canada. The facilities are capable of handling 2-inch to 60-inch diameter pipes up to 80 feet in length.

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