Coating Comparison Datasheet

Comparison of zinc, epoxy powder coating and e-coating for industrial steel components

Parameter	Hot-dip Galvanizing	Epoxy Powder Coating	E-coating (Cataphoresis)
Typical thickness	60–120 µm	60–100 µm	20–30 µm
Corrosion resistance	Very high (outdoor)	High (indoor / semi-outdoor)	High (uniform protection)
Coverage of edges / internals	Excellent	Good	Excellent
Surface finish	Rough / industrial	Smooth / aesthetic	Smooth / uniform
Dimensional impact	High	Medium	Low
Mechanical resistance	Medium	High	Medium
Repairability	Difficult	Easy	Medium
Typical standards	ISO 1461	ISO 12944	ISO 12944
Typical applications	Outdoor steel, structures	Industrial equipment	Automotive, filter cages

Technical Notes

- Hot-dip galvanizing provides maximum corrosion protection but affects dimensions and surface roughness.

- Epoxy powder coating offers high mechanical resistance and good aesthetics, suitable for controlled environments.

- E-coating ensures uniform thin-film protection, ideal for complex geometries and internal surfaces.

Note: Data shown are indicative and subject to final customer specifications and environmental conditions.