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Industrial Facilities (Protective Coating)



MUHTAWA
For Contracting

2 Industrial Facilities (Protective Coating)

We provide integrated and high-performance protective coating systems specifically engineered for industrial facilities to address the unique challenges of harsh operating environments. Our systems safeguard capital assets, reduce maintenance costs, and ensure operational continuity across critical.

Three-Layer Protective Coating System (Integrated Standard System)

We apply a fully engineered three-layer system designed to deliver comprehensive, long-term protection for steel structures in demanding industrial environments:

1. Primer (Preparation Layer):

An epoxy primer that protects steel from corrosion, prevents moisture penetration, and ensures strong adhesion for subsequent layers.

2. Intermediate Coat:

A high-build epoxy or MIO layer that forms a robust barrier against moisture and chemicals while enhancing the overall durability of the system.

3. Topcoat:

A polyurethane finishing layer resistant to UV radiation and weathering, preserving appearance and extending the system's service life.



System Operating Principle

The primer provides cathodic or chemical protection against corrosion by isolating steel from moisture and contaminants. The intermediate coat enhances the barrier effect with a thick protective layer that prevents mechanical and moisture penetration. The topcoat shields the system from UV radiation and environmental exposure for long-lasting durability.

Expected protection lifespan: 15–20 years in harsh industrial environments with proper periodic maintenance.



Target Sectors

- 01 Oil, gas, and petrochemical industries
- 02 Marine and coastal structures
- 03 Power generation facilities
- 04 Paint and chemical manufacturing plants
- 05 Water and wastewater treatment facilities
- 06 Warehouses and logistics centers
- 07 Food and beverage processing plants

Industrial Application Areas

- Our coating systems protect floors, walls, tanks, and internal steel structures from chemicals and corrosion in industrial environments.
- They also deliver long-term protection for external assets such as façades, marine structures, exposed tanks, bridges, and industrial platforms against severe weather and harsh environments.



Integrated Work Methodology

Assessment & Analysis: Studying operational and environmental conditions, chemical and mechanical exposures, and evaluating substrate condition.

System Design: Selecting the appropriate primer, defining coating thicknesses, and determining the type and color of the final coat.

Surface Preparation: Mechanical cleaning according to SSPC-SP10 / NACE No. 2, complete rust removal, and achieving a surface profile of 35–75 microns.

Layered Application: Applying primer, intermediate coat, and topcoat at specified film thicknesses to ensure a fully functional coating system.

Quality Control: Measuring DFT, performing adhesion tests, visual inspection, and fully documenting the application process.



Technical Advantages of the Three-Layer System

- Multi-level protection against chemical, mechanical, atmospheric, and thermal stresses for long-term performance.
- High resistance to chemicals including acids, alkalis, and solvents ideal for harsh industrial environments.
- Flexible system design with adjustable thicknesses, customizable colors, and tailored finishes.
- Strong mechanical durability against impact, abrasion, and heavy traffic.
- Cost-effective solution with long service life, reduced maintenance needs, and protection of capital assets.

