

FUERZA FERRO-GUARD

PENETRATING CORROSION INHIBITING COATING

FUERZA FERRO-GUARD is a **migrating corrosion inhibitor** formulated to penetrate cementitious substrates, including **reinforced concrete, mortar, and lime-based mortars**, through both liquid and vapor-phase migration within the capillary pore network. Upon penetration, it migrates toward embedded reinforcement and forms a **protective inhibitive layer**, providing effective corrosion mitigation against **carbonation, chloride ingress, and other aggressive contaminants**. Its high-viscosity formulation is particularly suited to **vertical and overhead applications**, ensuring controlled application and enhanced substrate retention.

PERFORMANCE ADVANTAGES

- **Proven migrating corrosion-inhibition technology** designed to extend the service life of reinforced-concrete infrastructure.
- Provides protection against reinforcement corrosion induced by **carbonation, chloride ingress, and other aggressive contaminants**.
- Effectively **reduces corrosion rates in existing reinforced concrete** containing active corrosion.
- **Non-toxic and potable-water compatible**, subject to applicable project requirements.
- **Water-based and non-flammable** formulation for safer handling and application.
- Non-aggressive to **glass, metals, and automotive coatings**; does not etch, stain, or discolor compatible surfaces.
- **Free from calcium nitrite and wax**, supporting vapor-permeable substrate behavior.
- **Breathable formulation** with minimal interference with moisture-vapor diffusion.
- Suitable for application by **spray, brush, or roller**.
- **Rapid drying**, allowing traffic reinstatement shortly after the treated surface becomes touch-dry.
- Demonstrates migration capability of up to approximately **75 mm (3 in.) within 30 days**, subject to substrate conditions.
- **Validated through laboratory and field performance testing**.
- Available in a **high-viscosity grade** suitable for **vertical and overhead applications**.

TECHNICAL INFORMATION

Appearance:	Clear to slightly hazy, amber liquid
pH:	9.0-9.5 (neat)
Density:	1.03-1.05 kg/liter

RECOMMENDED APPLICATIONS

FUERZA FERRO-GUARD is recommended for corrosion mitigation and durability enhancement in:

- **Existing reinforced-concrete marine structures** exposed to chloride-rich environments.
- **Bridges, highways, and industrial floors** subjected to chemicals, de-icing salts, carbonation, and atmospheric aggression.
- **Concrete piers, dams, offshore platforms, piles, columns, pipelines, utility poles, and cooling towers**.
- **Potable-water concrete structures** requiring reinforcement corrosion protection.
- **High-performance concrete repair systems**, where it functions as an integral corrosion-inhibition component.

MECHANISM OF ACTION

FUERZA FERRO-GUARD is an organic, **ambiodic (mixed) corrosion inhibitor** that simultaneously suppresses both anodic metal dissolution and cathodic electrochemical reactions within the corrosion cell. Its synergistic blend of **amino alcohols and carboxylic-acid salts** migrates through the cementitious pore network toward embedded reinforcement, where it forms a protective inhibitive film. This mechanism delays corrosion initiation and significantly reduces the corrosion rate of reinforcement where active corrosion is already present.

COVERAGE & APPLICATION RATE

FUERZA FERRO-GUARD is typically applied at approximately **3 m²/kg in a single coat** on horizontal substrates. For vertical and overhead applications, apply **two coats at approximately 6 m²/kg**, subject to substrate porosity and surface conditions.

SURFACE PREPARATION & APPLICATION

Surface Preparation: Ensure the substrate is clean, dry, and free from oil, grease, efflorescence, water-repellent treatments, coatings, membranes, asphalt, and other contaminants that may inhibit penetration. Suitable cleaning methods include steam cleaning, high-pressure water blasting, or abrasive blasting.

Application: Apply **FUERZA FERRO-GUARD** by conventional or airless spray equipment, hand-pressure sprayer, brush, or roller in accordance with the specified coverage rates. Where multiple coats are required, allow sufficient drying between coats while ensuring the subsequent coat is able to penetrate the substrate within approximately **15 minutes**. Prior to application of a water-repellent treatment, protective coating, repair mortar, or overlay, thoroughly rinse and pressure-wash the treated surface with **potable water**. Refer to the relevant system specifications for detailed application requirements.

APPLICATION LIMITATIONS

The substrate and ambient temperature shall be maintained between **5°C and 50°C**, and application should be avoided where temperatures are expected to fall below **0°C within 12 hours**. **FUERZA FERRO-GUARD** will not penetrate existing **water-repellent treatments, coatings, paints, membranes, or asphalt**, which must therefore be removed prior to application. Where treated structures are intended for subsequent submersion, a compatible **waterproofing coating** should be applied over **FUERZA FERRO-GUARD** before immersion. The chloride concentration at reinforcement depth should not exceed **3.5 kg/m²**; higher levels require consultation with **FUERZA**. Application should also be avoided when **rain is expected within 8 hours**.

PACKAGING & STORAGE

FUERZA FERRO-GUARD is supplied in **20 kg and 200 kg HDPE drums** and is also available in a **blue-pigmented grade** for clear visual identification of treated areas. The product has a **24-month shelf life** when stored in the original container at temperatures between **0°C and 60°C**. **Protect from freezing**.

