TECHNICAL DATA SHEET (TDS) AND INSTRUCTIONS FOR USE

METOX M-1000

Stainless Steel Pickling Bath Acid

Immersion (pickling) bath for weld burns, heat oxides and rust stains

Product Description

METOX M-1000 is an immersion acid specially formulated to remove weld burns, heat oxides, rust stains, surface defects formed during cutting and blasting, and particles that weaken the chromium layer and cause corrosion from stainless steel surfaces.

It restores the passive layer (chromium oxide layer) that forms naturally on stainless steel but is damaged by heat treatment, thus increasing corrosion resistance.

Features and Benefits

- **Thorough cleaning:** Effectively removes all heat tint, oxidation and rust stains.
- **Passivation support:** Supports the formation of a new, uniform passive layer during and after treatment.
- **High compatibility:** Can be used at adjustable concentrations for different stainless steel grades.
- **Compliance with standards:** Complies with ASTM A-380 A.1 and BS CP-312.



60 kg drum and 1,000 kg IBC

Packaging

Metox M-1000 is supplied in 60 kg drums and 1,000 kg IBC polyethylene containers. Availability of package sizes may vary between markets.

Storage

- Metox M-1000 should be stored indoors at room temperature. Containers must be kept tightly closed, upright and out of reach of unauthorised persons.
- As settling may occur during storage, the product must be mixed before use; it should not be stored longer than necessary.
- When stored at room temperature, the maximum shelf life is two years. Exposure to higher temperatures (>35 °C) may damage the product and shorten its shelf life.

Areas of Use

- Welded stainless steel parts and pipework
- Parts with complex geometry, inner corners and pipe interiors
- Surface defects after cutting and blasting

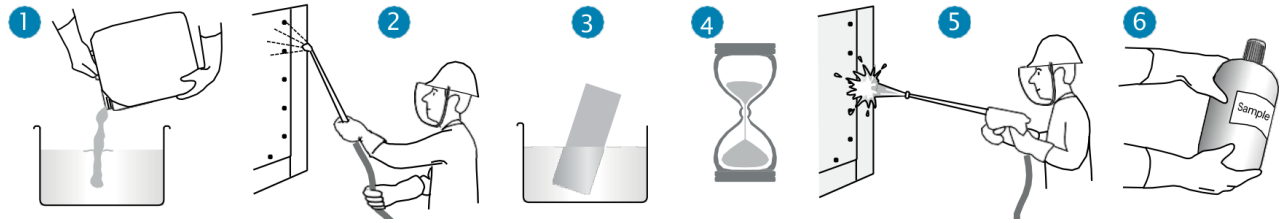
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Technical Properties

Property	Value
Product type	Stainless steel pickling (immersion) acid
Appearance	Clear liquid, colourless – light yellow
Odour	Pungent, acidic
pH	< 2
Flash point	Not applicable (non-flammable)
Solubility in water	Soluble
Dilution ratio	AISI 304, 316: 1/1 (product/water); 904L, 254 SMO, super duplex: undiluted
Immersion time	30 minutes – 4 hours
Standards	ASTM A-380 A.1, BS CP-312
Shelf life	Max. 2 years at room temperature

Instructions for Use

Metox M-1000 is used as an immersion bath. For standard stainless steels (e.g. AISI 304, 316) it is diluted 1:1 with water; for high-alloy steels such as AISI 904 L, 254 SMO and super duplex (SAF 2507) it must be used undiluted.



1. After determining the mixing ratio, add water to the bath first, then Metox M-1000.
2. Pre-clean the parts with Metox DGR-02 to remove oil and dirt, then rinse with water.
3. Immerse the part in the bath.
4. Leave for 30 minutes to 4 hours depending on bath temperature, steel grade and bath conditions.
5. Wash off acid residues with a high-pressure water jet.
6. Analyse/check the bath content regularly to maintain the best bath composition and pickling result.

Passivation: To further improve the result, passivation with Metox P-3000 or Metox H-3000 after pickling is recommended.

Waste Treatment

- Waste water generated during bath treatment contains acids and must be adjusted to pH 7–10 with Metox N-3000 or slaked lime before discharge. Heavy metals dissolved from the stainless steel precipitate as sludge and must be sent for disposal in accordance with local regulations.
- Empty containers (HDPE) should be cleaned and can then be recycled in accordance with local regulations.