



Elmer Wallace Ltd

Specialised Products for Stainless Steel Cleaning, Marking,
Identification, Testing & Maintenance

Post Fabrication Cleaning

- To clean or not to clean
- Mechanical or Chemical methods
- Selection of the most suitable process
- Passivation & Testing
- Maintenance & Aftercare



Post Fabrication cleaning

- Removes impurities, dirt & contamination
- Improves the corrosion resistance
- Produces a uniform surface finish
- Enhances physical & aesthetic appearance of the finished product.
- **Gives the customer what they wanted at the design stage!**

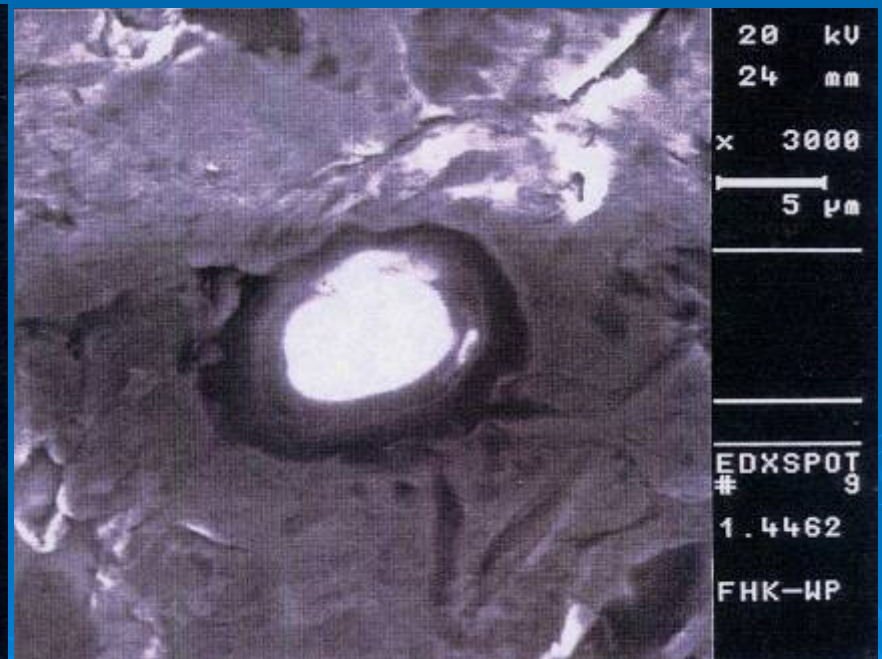
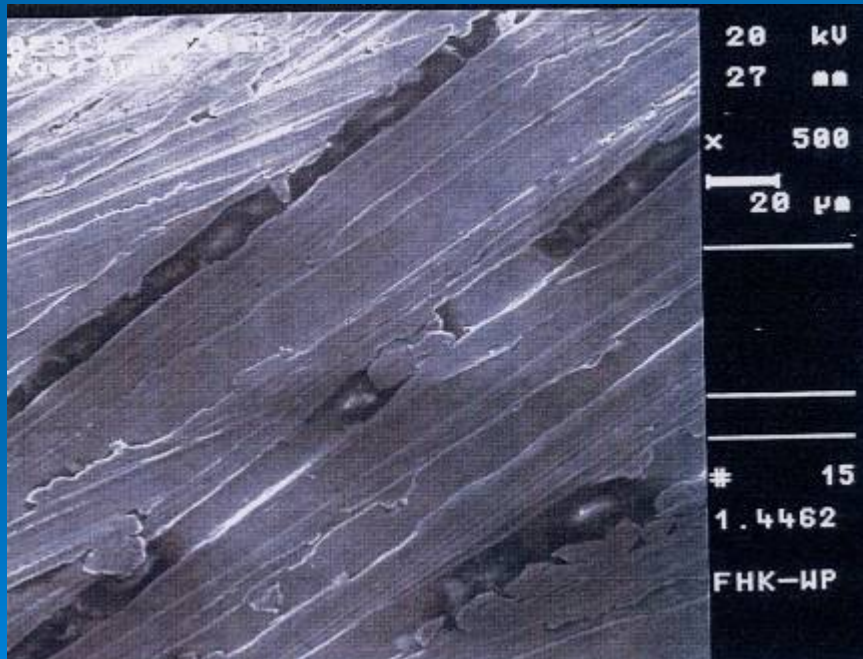
Why clean Stainless steel?

- The corrosion resistance properties arise from a thin, but very dense, film of chromium oxide – the passive layer.
- Disruption to this protective film can cause corrosion. (Machining & welding.)
- Customers want nice clean shiny surfaces!



Mechanical Methods

➤ Grinding, Polishing & Bead/Shot blasting



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- UK agents for *Antox products*
- Specialised cleaning & testing products



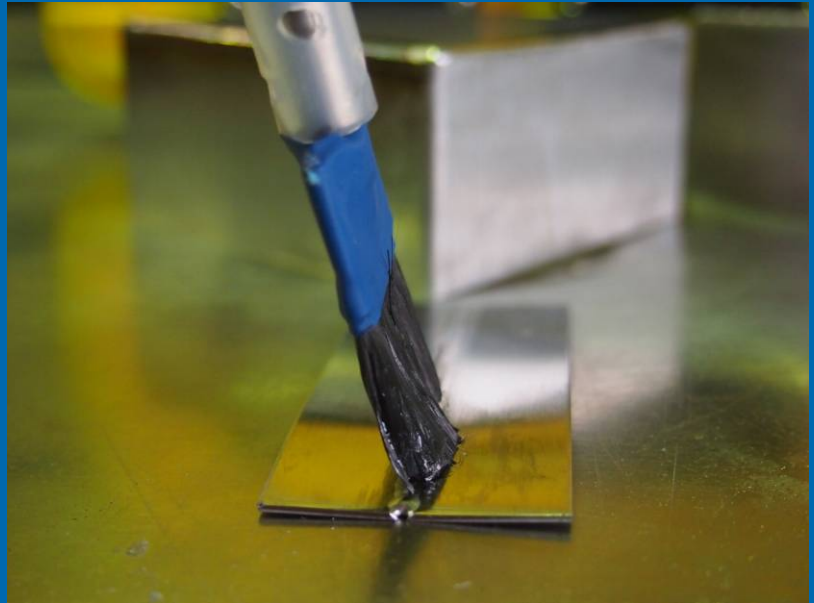
Chemical cleaning

- Select the most suitable process



Pickling Pastes, Gels, Tapes, Suspensions,
Sprays or Immersion Bath

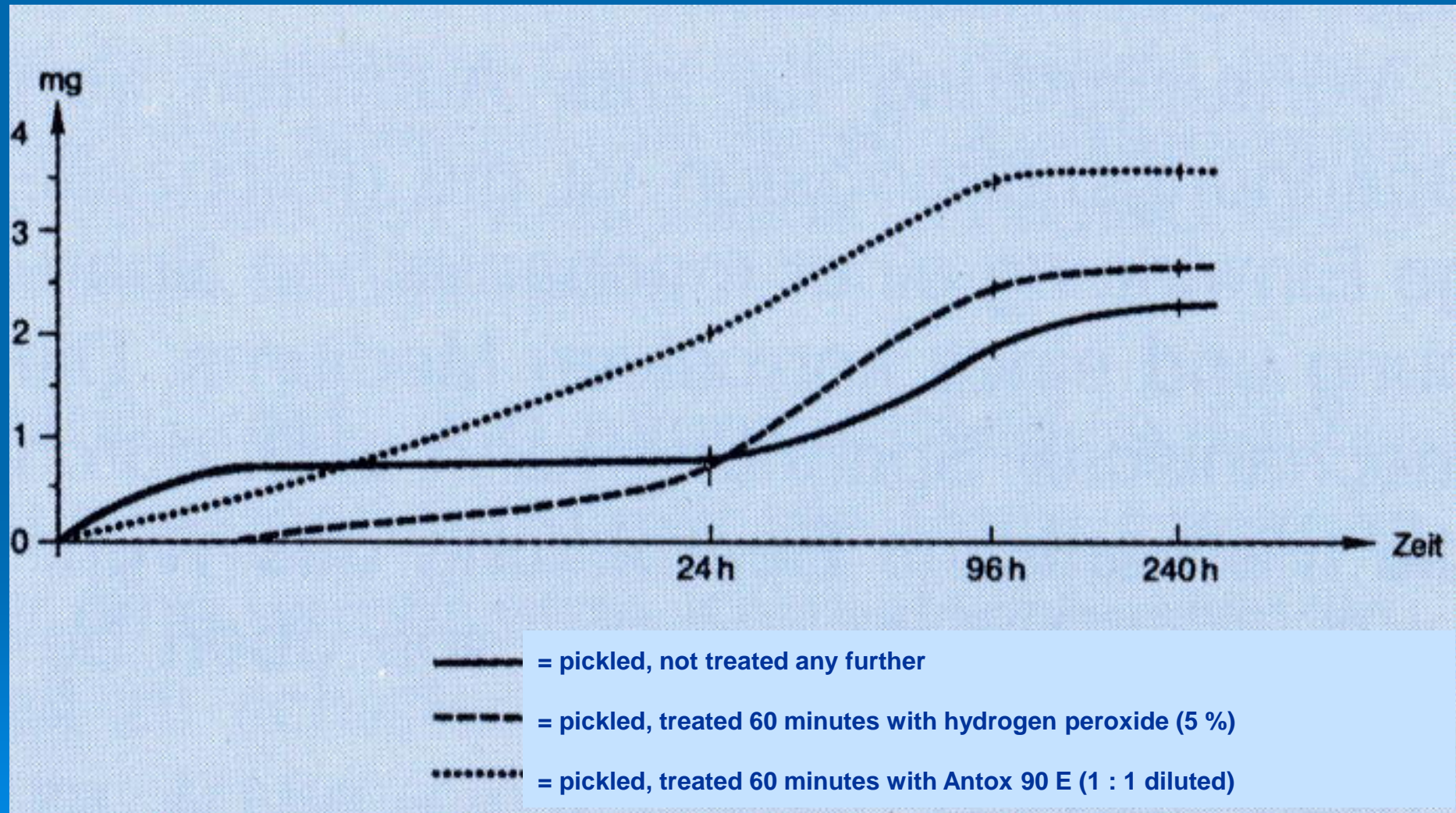
Electro-Chemical Machines



Why Passivate?

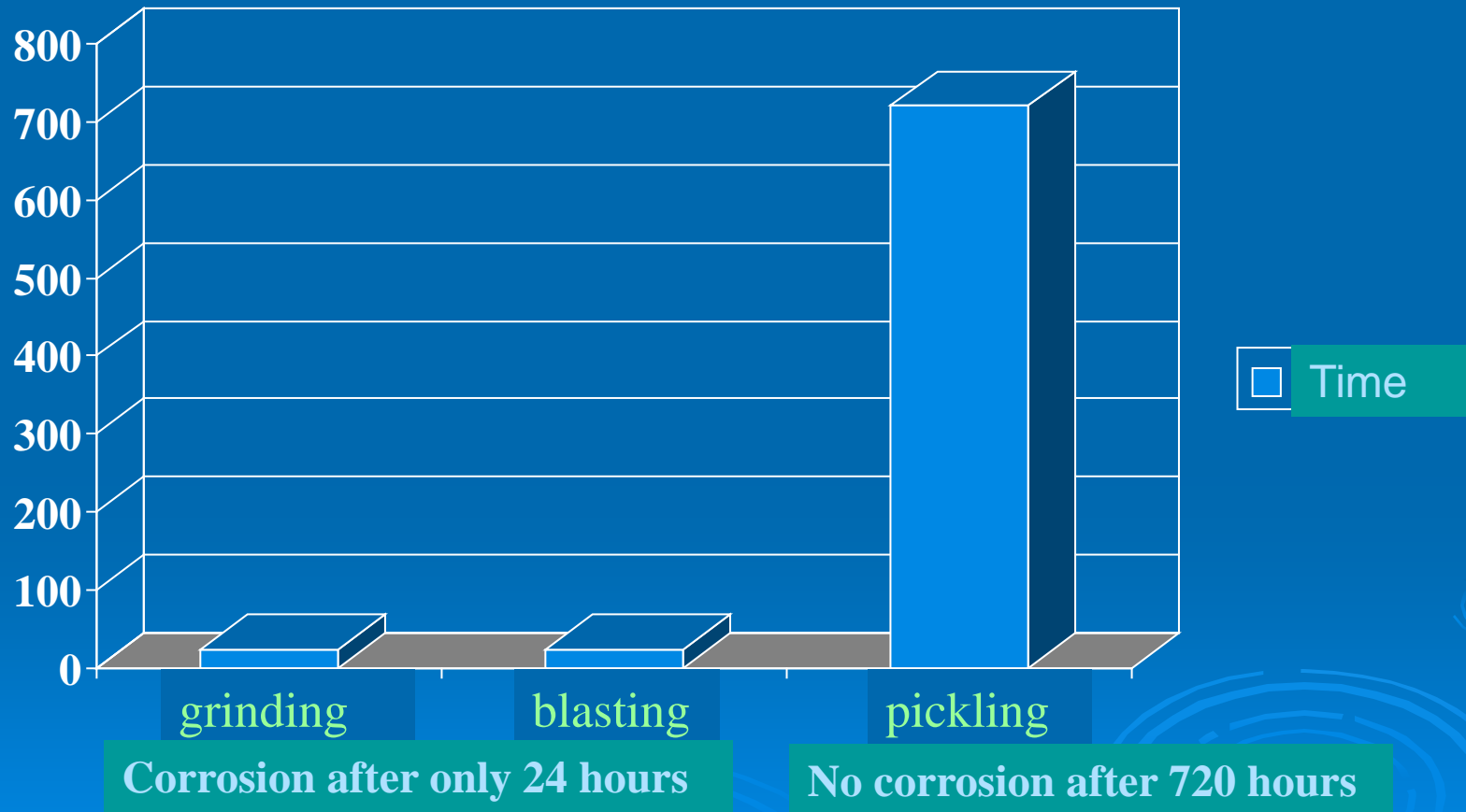
- To ensure the rapid formation of a good, uniform Chrome Oxide layer.
- ASTM A380, BSEN 2516, ASTM A967 (based on US Defense Department standard QQ-P-35C)
- Nitric Acid or Citric Acid based processes
- *No HF used in passivation*

Passivation



Passivation

Salt spray test DIN 50021



Maintenance & Aftercare

- Stainless steel requires low maintenance, not *no maintenance – Stain Less*



Contamination

From pickling process or Iron



Iron Contamination

- Contamination from Steel parts. Usually from grinding, water dripping or surface contact.
- Passive layer attacked by other chemicals, halides. (Cl, F, Br, etc.)
- ***Do not use pickling pastes***



Health & Safety

- All employees handling pickling products must have instruction on the hazards and proper use of these products.
- At the workplace, chemicals should only be allowed in a quantity that is absolutely necessary for carrying out the process. Containers must be closed when not in use.
- Avoid any contact with the skin. Wear personal protective equipment (goggles, if necessary with protective visor, apron, boots, gloves, full-protection clothing made of an acid-resistant material, breathing protection if required).
- The protective clothing must be washed before taking it off.
- Calcium Gluconate antidote gel should be available in case of skin contact.
- At the end of work, containers and equipment must be locked away. Access must be restricted to authorised personnel only.

Dry Ice Cleaning Division



- Solid CO₂ pellets as the blasting medium
- Soft pellet does not harm substrate
- Non toxic & no hazardous chemicals are used
- No water or blasting media to collect

Dry Ice Cleaning Division

- 3-step process
- **Kinetic** – pellet & compressed air at high speed
- **Thermal** – low temperature cracking
- **Sublimation** – from pellet straight to gas



Stainless Steel Identification



➤ *Inox Tester* – Able to identify different types of Stainless Steel.

➤ *Moly Test* – Will identify 316 only

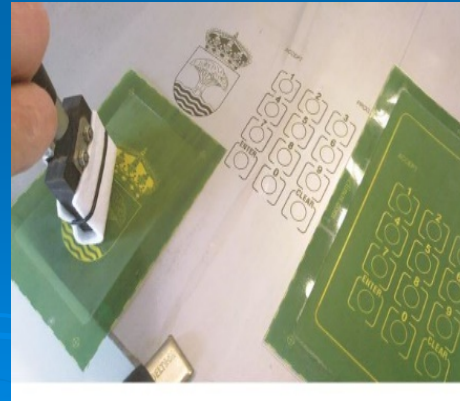
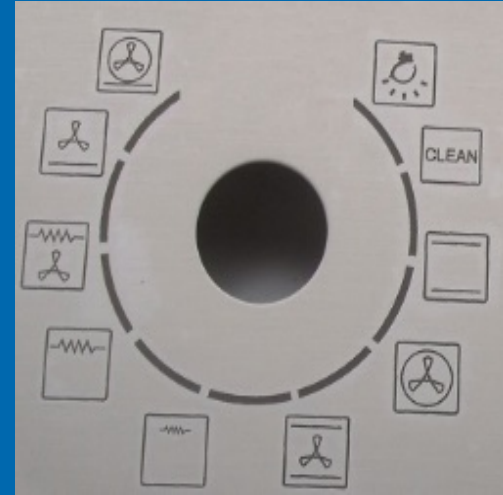
➤ *Passi Plus* – Presence of the passive layer

➤ *Ferroxyl Test* – Free Iron Contamination



Stainless Steel Marking

- *Permanent marking using stencil*
- *Long life stencil for logo or trademarks*
- *Black and white marking available*
- *Can also be used on Aluminium, Brass, Copper, Galvanised & Titanium*



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Solutions for Stainless Steel Professionals

