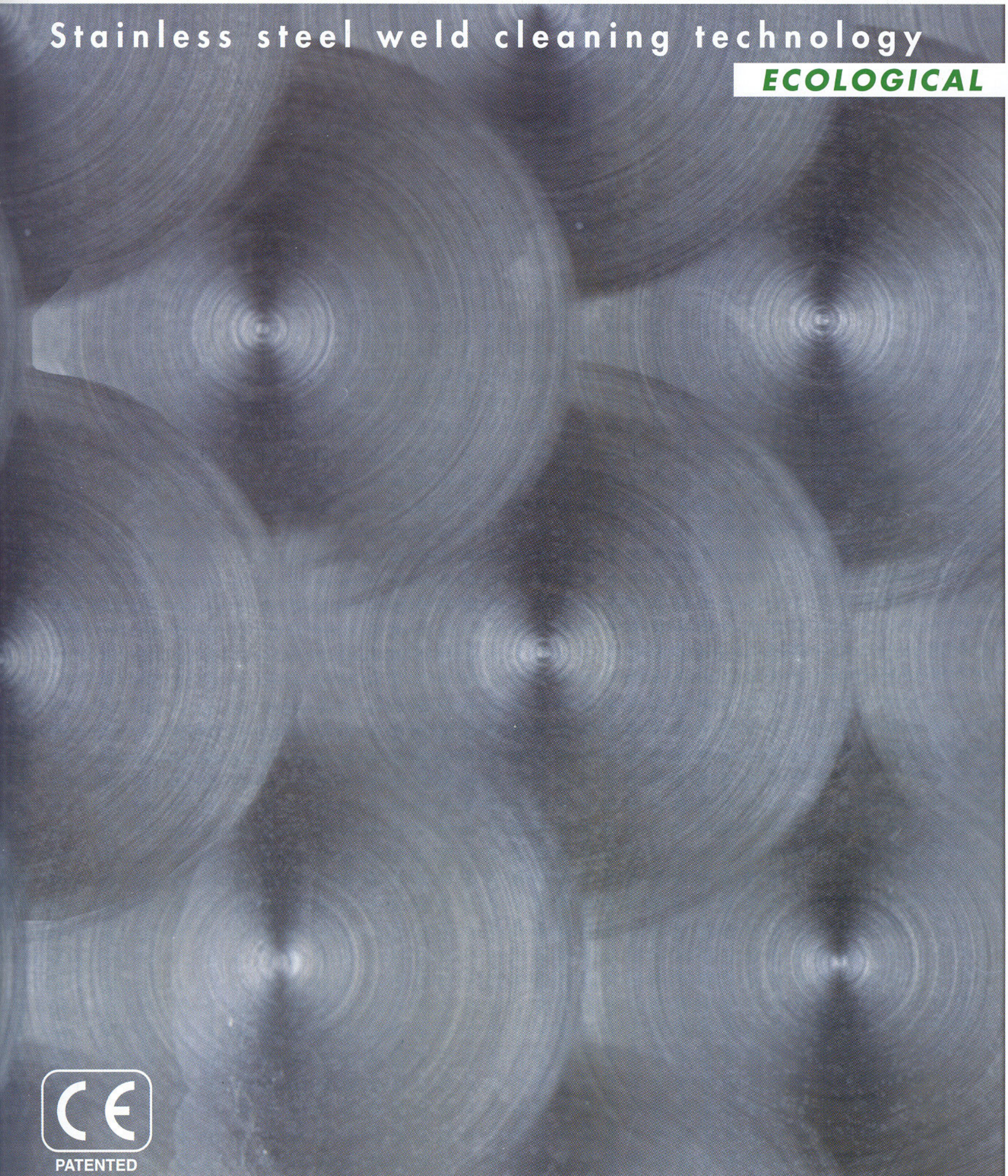
CLINOX

Stainless steel weld cleaning technology

ECOLOGICAL



CE

PATENTED

NITTY-GRITTY keeps the right to modify the charcteristics of the products without giving notice.

nitty gritty

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TIG.CLINOX

Uses a fast-acting electrochemical reaction for excellent quality pickling and passivation of lightweight stainless steel sheet metal welds (satin-finish, polished, satin-flower etc.) made using the following welding methods:

SPOT, TIG, PLASMA, LASER, RESISTANCE, ORBITAL.

Ensures unbeatable quality pickling and passivation in terms of:
SURFACE FINISH, (no haloes)
WORKING CONDITIONS, (high-speed operation, increased throughput and easy operation)
ENVIRONMENTAL AND HEALTH PARAMETERS (operator safety and minimisation of polluting waste)
SAFE USE IN THE FOOD INDUSTRY APPLICATIONS (food safety parameters, corrosion proofing, uniform passivation).

Laboratory tests yield the following consumption data:

- **1 litre** of chemical solution cleans **150 m** of TIG weld
  The solution is free of: Hydrofluoric acid, nitric acid, (corrosion symbol)
- **1 pad** cleans at least **50 m** of TIG weld. The patented pad yields unbeatable cleaning quality and productivity.

The standard tungsten alloy tip gives a marked increase in service life (300 h compared to 30 h for stainless steel). The special inner corner tips in tungsten alloy, combined with the new patented extra-thin heat- and acid-resistant pads are the best solution for pickling inner corner.

R & D PROJECT

Nitty-Gritty R&D has resulted in the issue of patents for the first generation of dedicated stainless steel TIG weld pickling units, the TIG.CLINOX range, world leaders for quality and productivity. Nitty-Gritty is currently developing the second generation of stainless steel, aluminium and other metal weld pickling units, together with its team of partner technology companies.


The United States of America

The Commissioner of Patents and Trademarks

Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

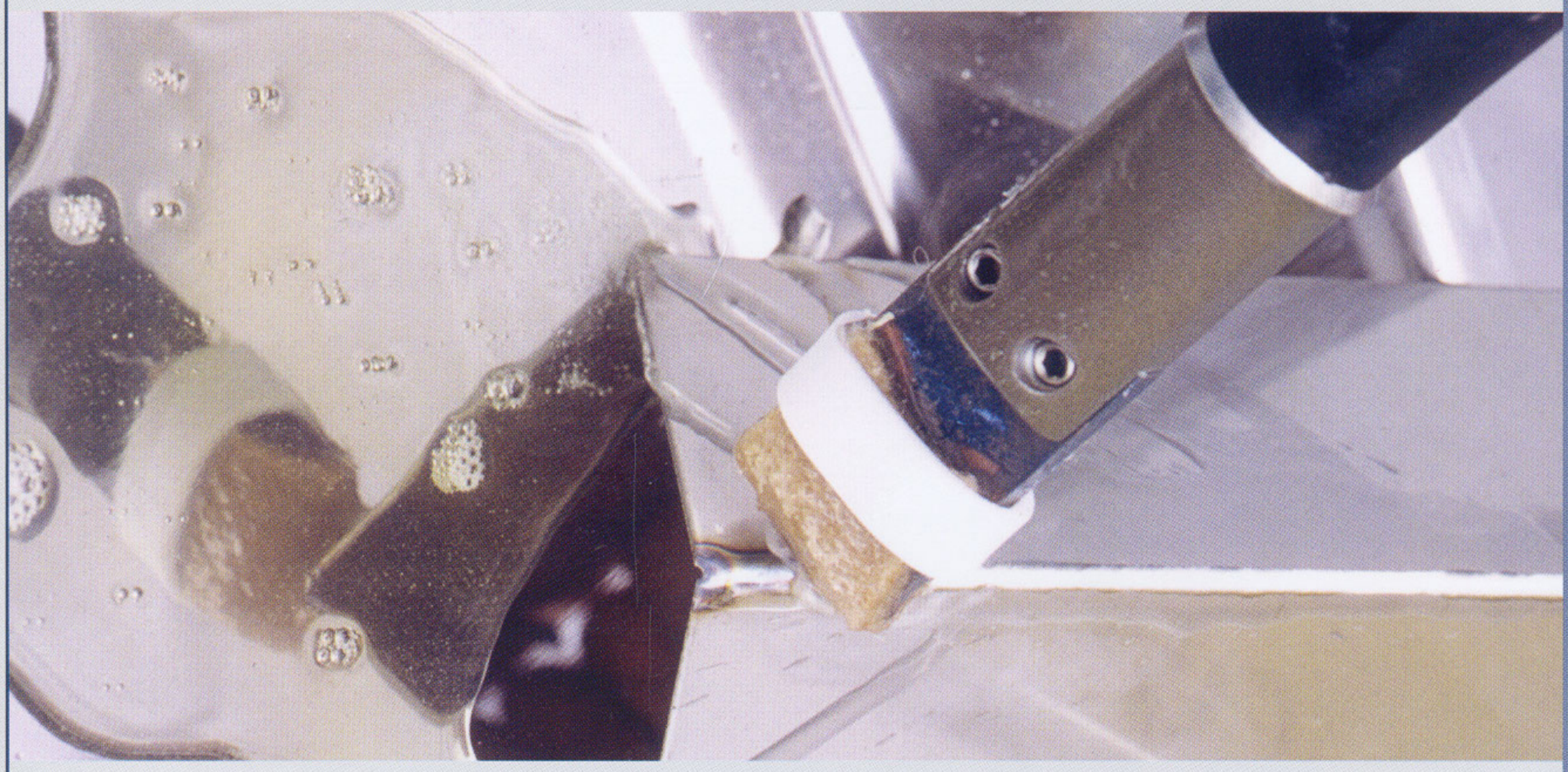
United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

It cleans and passivates instantly without the need to wait for pickling paste or gel to react and without leaving "haloes".



TIG.CLINOX is suitable or STAINLESS STEEL light-weight structural components (with satin finish, polished finish, scotch brite finish, satin flower finish etc...)

Typical TIG.CLINOX applications are the following:

- Food industry machines
- Stainless steel furniture
- Packaging machines
- Bar/restaurant furnishing
- Industrial kitchens (NOT AISI 430 hoods)
- Finishes for food-grade tanks
- Tanks for wine and oil.
- Piping for food industry
- Stainless steel electric panels
- Air conditioning and heating ducts
- Automatic dispenser
- Boat interior fitting and yacht finishes
- Water purification plants
- Car and motorbike silencers
- Stainless steel filters for pharmaceutical industry
- Pharmaceutical plants (construction)
- Cold rooms
- Stainless steel interior fittings for lorries

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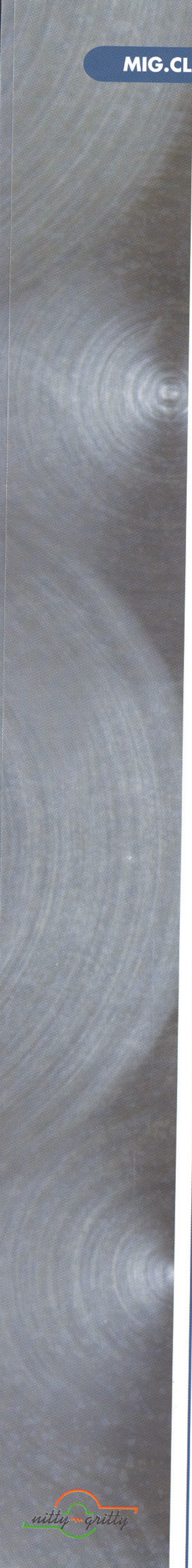
Manufacts realized using **TIG.CLINOX** machines have been tested by the best European Institution about

CORROSION RESISTANCE (Salt spray test).
SAFETY FOR THE FOOD PROCESS.
HEALTH AND SAFETY.

All the results are available on request.

Model CE PATENTED	TIG. CLINOX ECO	TIG. CLINOX PRO
Voltage	220/240 V	220/240 V
Frequency	50/60 Hertz	50/60 Hertz
Power	300 W	900 W
Output tension	10-20-30 V	12/30 V
Isolation class	IP23	IP20
Weight	2,5 Kg	18,5 Kg
Depth	200 mm	200 mm
Width	210 mm	480 mm
Height	85 mm	300 mm
Pump Automation		•
Polishing	•	•
Marking	•	•
Suction system		•

TIG CLINOX



MIG.CLINOX

cleans by means of an instantaneous electrolyte reaction and the recirculation of the chemical agent. The result is excellent quality cleaning and passivation of welds on stainless steel items made using the following methods: TIG using welding material, pulse arc MIG and standard MIG.

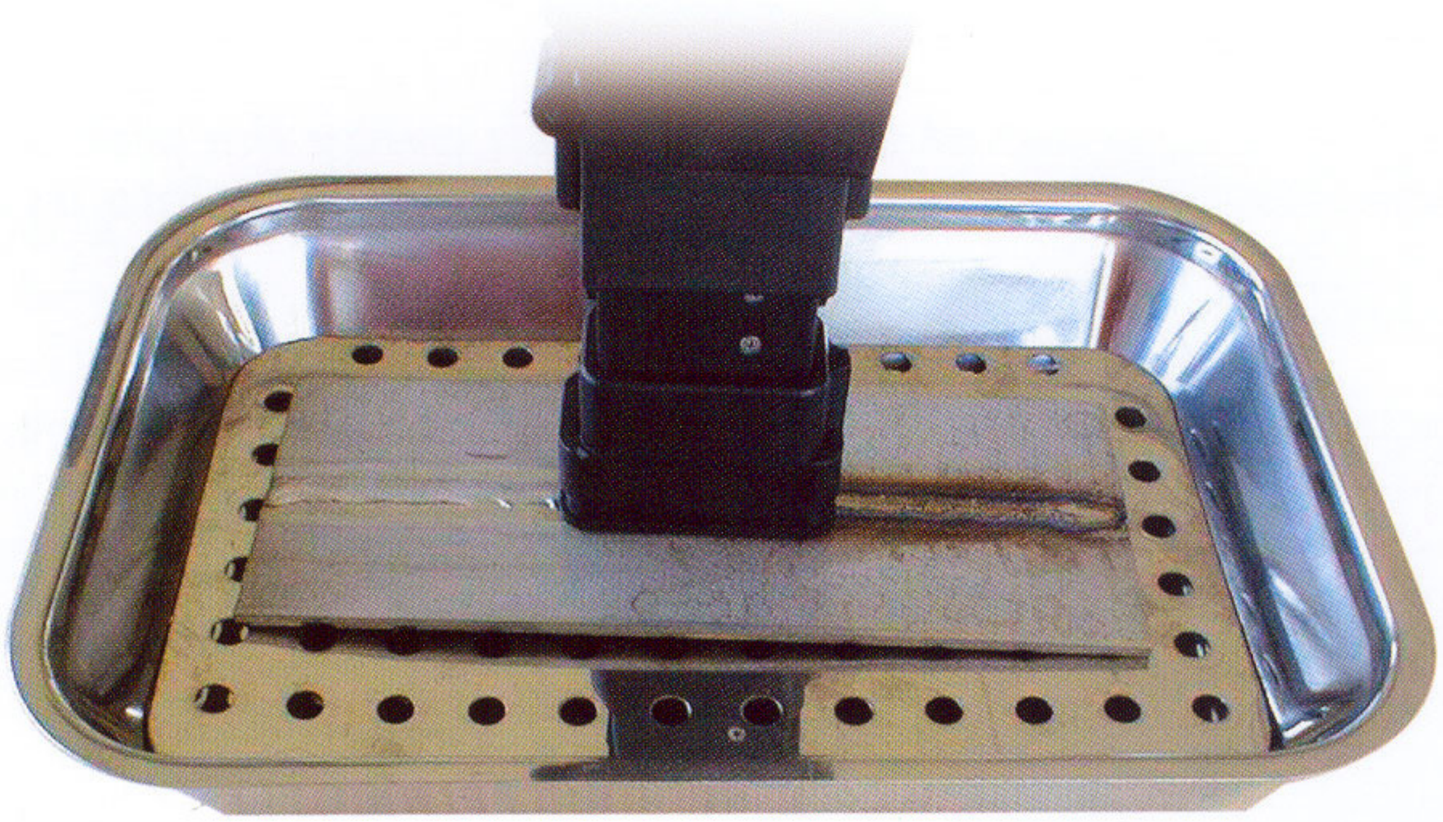
MIG.CLINOX
ensures unbeatable quality cleaning and passivation in terms of:

SURFACE FINISH:
no haloes.

WORKING CONDITIONS:
instantaneous operation, increased throughput and user-friendly operation.

ENVIRONMENTAL AND HEALTH PARAMETERS:
operator safety and minimisation of polluting waste.

SAFE USE IN THE FOOD INDUSTRY APPLICATIONS:
food preservation and corrosion proofing.



M I G . C L I N O X

MIG.CLINOX offers the following advantages over traditional methods::

Compared to abrasive mechanical cleaners:

- it does not damage the surface finish of the material;
- it does not release metallic powders (aluminium or others) into the atmosphere;
- it does not contaminate the material;
- guarantees total and homogeneous passivation of the items;
- the materials required for the operation are much less expensive;
- improves working conditions;
- offers increased safety as there are no moving components which can injure operators;

Compared to chemical cleaning with cleaning pastes and gels:

- it does not damage the material surface finish (no haloes);
- the process is much faster;
- shows immediate results;
- improves working conditions: it is possible to work inside the plant on one piece at a time;
- it does not release dangerous or toxic vapors that are harmful to either operators or the environment

MIG.CLINOX only requires that the film of chemical solution left on the cleaned surface be removed with water: this way MIG.CLINOX drastically reduces the polluting flow-off typical of pickling gel.

P A T E N T P E N D I N G

Our thorough, in-depth research and development project has resulted in the development and patenting of the first generation of machines designed specifically to clean **MIG** welds on stainless steel, called **MIG.CLINOX.**

MIG.CLINOX