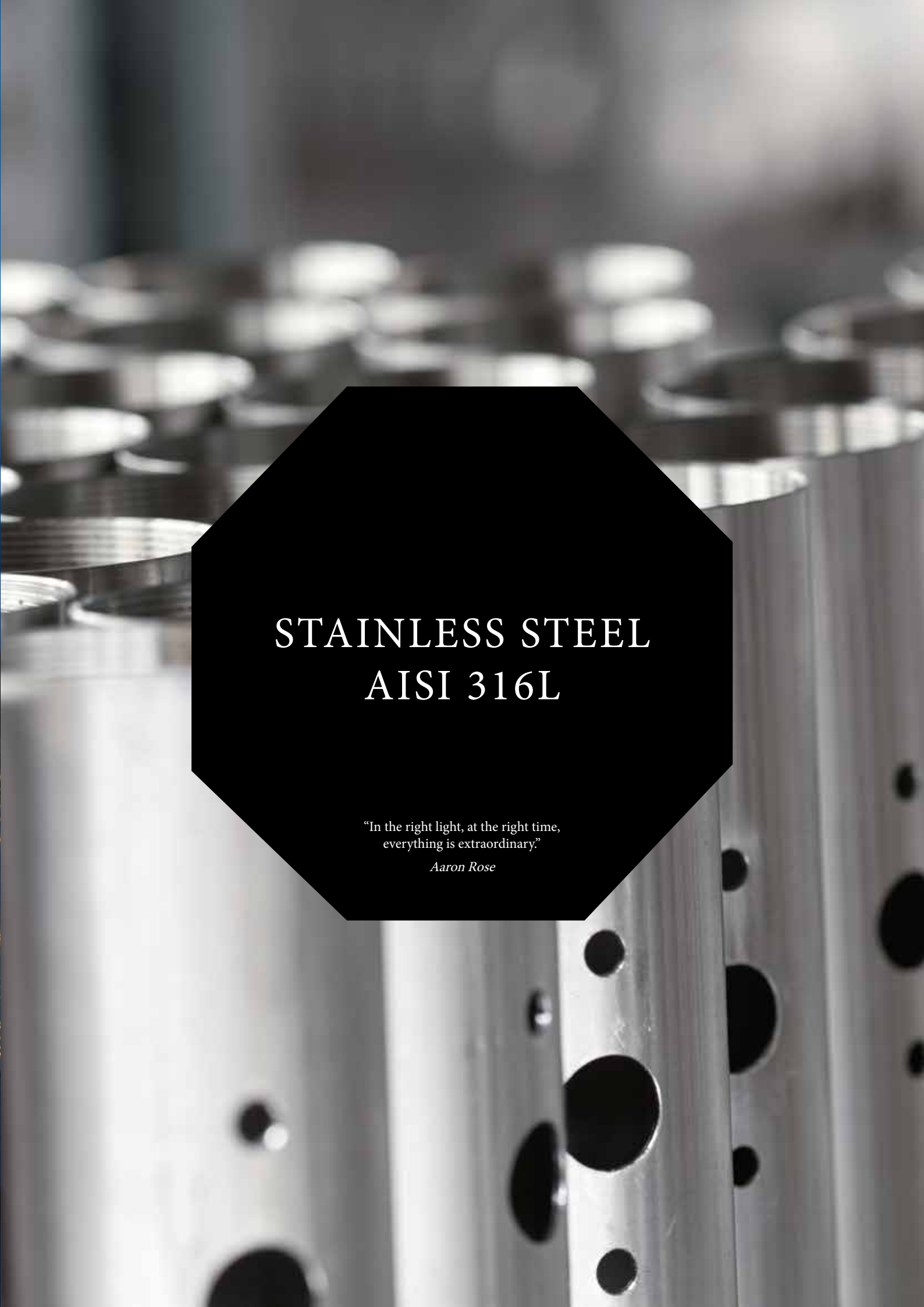


STAINLESS STEEL AISI 316L

"In the right light, at the right time,
everything is extraordinary."

Aaron Rose

STRAL uses only the 316L stainless steel is the most resistant to corrosion agents thanks to its nickel, chromium and molybdenum contents. The 'L' stands for 'low carbon' content, which eliminates the possibility of deep corrosion .

On the market you usually find less valuable kinds of steel. For example most producers use 304 stainless steel that does not contain the precious molybdenum, thus reducing their overall resistance. 304 is less expensive than 316L, but it is also less resistant and durable.

In fact Stral, specialized in stainless steel, can count on the experience of the Palazzoli group, which has been present on the market for over 100 years, industrializing electro-technical products among which are high-safety lamps, for marine and antiexplosive application.

These skills are a fundamental asset when building luminaires, especially to customers' specifications, because the product must be the definitive one already in the sample phase, allowing Stral also to fulfill orders for little numbers of customized products.

During the whole production cycle, the machines and the tools used must not have been in contact with any steel other than 316L, or even worse with iron, as the micro particles of these different materials at high temperatures could combine themselves with the 316L steel creating problems of possible corrosion.

What happens to aluminum products after several months of exposure to extreme weather conditions, especially near the sea. AISI 316L is an ideal “building material” to be installed in environments characterized by strongly aggressive agents, such as salty sea air in seaside localities or acid rains caused by environmental pollution.

ELECTROPOLISHING

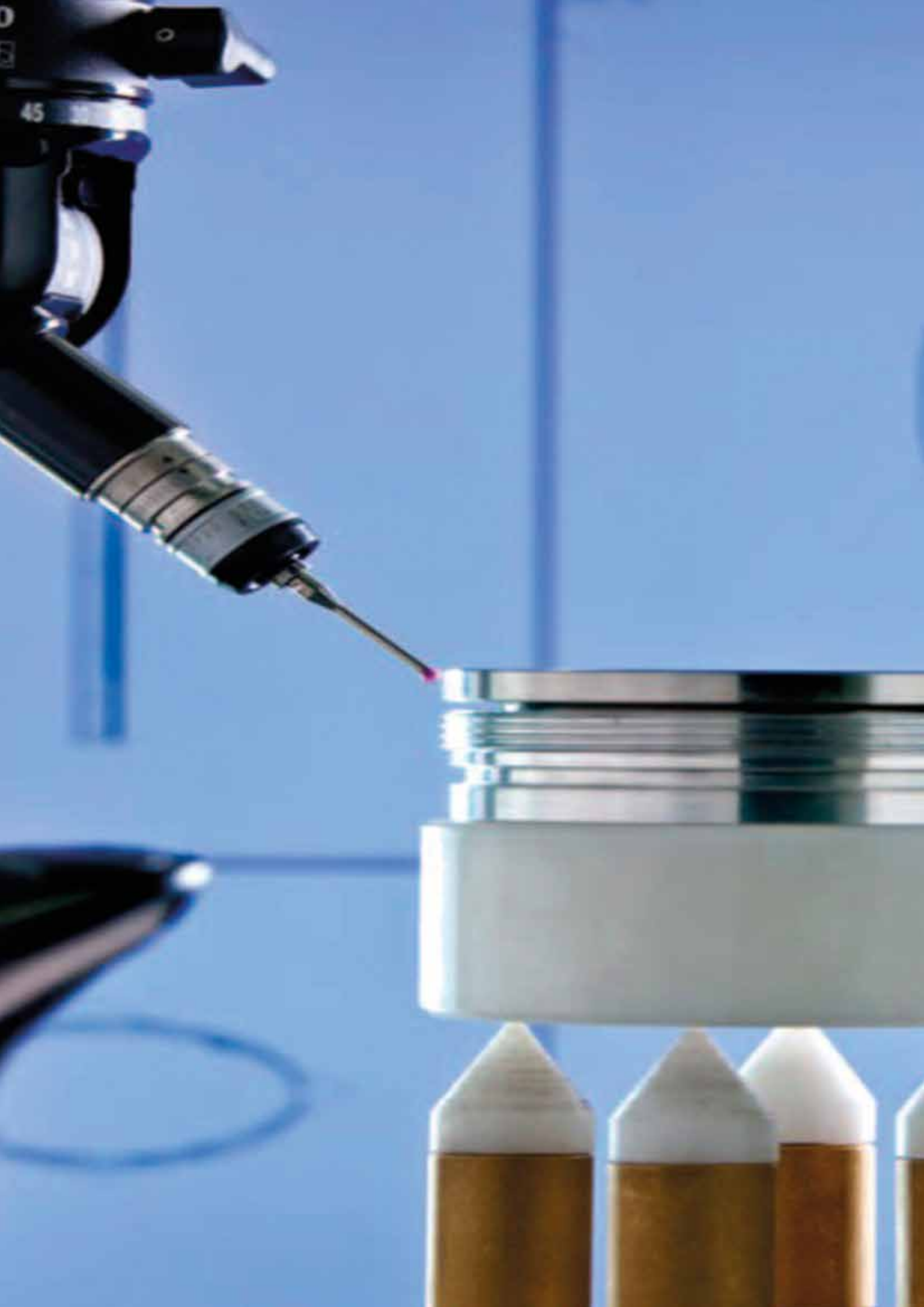
Electropolishing is a superficial finishing process improving shape and functional characteristics of steel.
It is a galvanic process which selectively removes material from the superficial layer, by consequently improving the finish, which becomes shiny, smooth and clean, due to the progressive reduction of the protruding profile.
Electropolishing is followed by passivation, a chemical process aimed at enhancing the spontaneous formation of a protective oxide layer isolating the metal and preventing the oxidation reaction.
Therefore, the electropolished inox steel AISI 316L has a considerable resistance to the corrosion due to polluting environmental agents or to salty sea air.

Location: Valli Bresciane
Specialized production: metallurgy, metalmechanics
Number of towns: 49

Surface area: 800 sq km
Population: 300.000
Number of firms: 21.000
Export sales quota: More than 50%

THE DISTRICT OF BRESCIA

In the narrow valleys of Brescia, climbing up towards the Alps between the lakes of Iseo and Garda, iron workings existed at least two thousand years ago, when the Etruscans discovered two important metal deposits in Bovegno and in Collio.
Since that time, the people there have upheld this old tradition, so much so that it can be affirmed that iron, steel and mechanics are all part of their blood.
And still today it represents one of the most extraordinary industrial complexes in Italy: 49 towns, a surface of around 800 square kilometers, with a population of almost 300 thousand people.
More than 20 thousand local units with 64 thousand people employed in industries, including 44 thousand working in the metallurgic and metal-mechanic sectors.
The industrial area is not mono-specialist, but above all constitutes an assembly line, one which leads from the first iron and steel working of metals right up to the final mechanical handling, passing through the production of products in iron, steel, brass and other alloys, to the work on finished manufactures, arriving at the planning and production of machinery and mechanical parts.
The area is characterized by a significant presence of artisan firms specialized in the manufacture and working of metal products.



LABORATORY TEST

The Palazzoli S.p.A Group has a cutting edge internal laboratory available to test the quality and the resistance of its products.

-CORROSION TEST CABINET

-ENVIRONMENTAL CHAMBER:
This new technology can simulate the exposure to the most different environmental situations and aggressive weather conditions.

-IP TEST:
Thanks to its internal laboratory, Stral can guarantee the constant check of the degree of protection against the intrusion of solid and liquid bodies (IP).

-IK TEST (IMPACT TEST):
Making use of this new machinery, Stral can simulate different levels of impact on the lamp, ensuring its resistance.

IP TEST

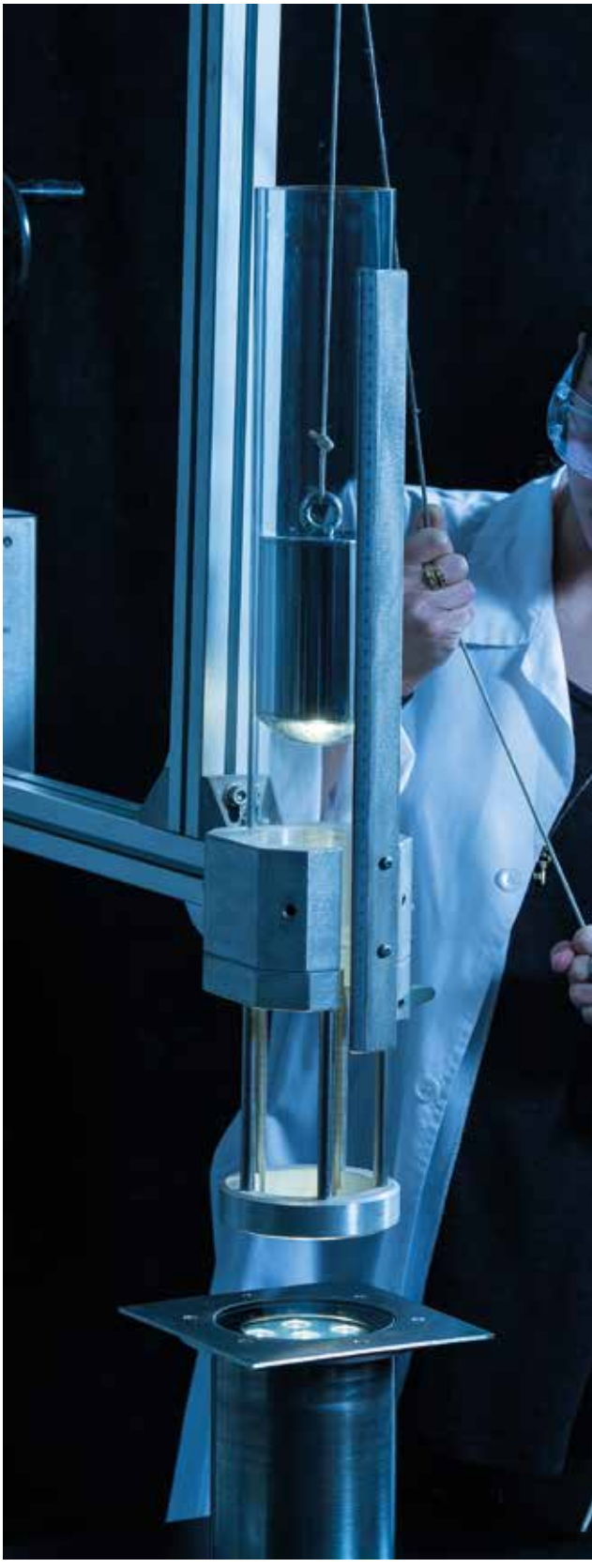
ASTRAL®
LIGHTING FOR LIFE

ENVIRONMENTAL CHAMBER

IP TEST

ASTRAL®
LIGHTING FOR LIFE

IK TEST



ASTRAL®
LIGHTING FOR LIFE

IP TEST

ASTRAL®
LIGHTING FOR LIFE

CLEANING STAINLESS STEEL

Stainless Steels are inherently corrosion resistant materials that do not need additional surface protection to enhance their appearance and durability.
Some routine maintenance and cleaning is needed to keep stainless steel surfaces in good condition, so that the aesthetic appearance and corrosion resistance are not compromised.
The following guidelines give advice on how to efficiently and cost-effectively clean stainless steel surfaces, profiting from corrosion-resistance properties.
When applied outdoor, stainless steel may be exposed to a wide range of potentially aggressive environments, as a consequence of the contact with:
- marine atmospheres
- Industrial environment laden with polluting agents
- Road deicing salt splashes
- Athmospheric and traffic pollution.

All of them cause dark staining. It is therefore important to clean stainless steel façade elements as often as windows and glass walls. According to the amount of dirt deposits, the recommended routine cleaning frequencies are of 6-12 months for mild dirt and of 3-6 months for stubborn dirt deriving from the above mentioned environments.
This form of contamination can be removed by means of stainless steel cleaners containing phosphoric acid.
It may occur tiny particle deposits. At an early stage, light deposits can be removed using nylon pads, such as the "Scotch-Brite" type used in kitchen work. Alternatively, the contamination can be removed with a specific phosphoric-acid-based stainless steel cleaner.
Should pitting occur, depending on its severity, acid pickling treatments will be needed to restore the damaged surface. In this case, pickling agents in paste form are available for localized, on-site application. They should be used in accordance with the manufacturer's directions, so that they are managed and applied safely and in compliance with the relevant legislation on environmental protection.
For outdoor applications, i.e. façades, rainfall is usually sufficient to wash off accumulations of dirt and other deposits efficiently, depending on the amount of exposure of the architectural element. During routine cleaning, special attention should be paid to sheltered areas in order to ensure that accumulations of airborne contaminants are removed. This is particularly important in marine and industrial environments, where airborne chlorides or sulphuric build-ups can result in localized corrosion, if not effectively removed.
The safest and most effective products to remove fingerprints or other marks from architectural finishes are soapy water or a mild detergent.
Proprietary spray products are available, combining ease of cleaning with a light film which results in a uniform gloss.
Address the nearest national stainless steel development association to obtain further advice on locally available products.
Abrasive products are advised against, as they can leave scratches on stainless steel surfaces.
Heavy damaged surfaces can be treated with metal polishes, such as those used to clean chromium-plated Items (e.g. car finishes). Attention must be paid, however, when using these products on very glossy surfaces, as they can be scratched.
As an alternative, to remove contamination, it can also be used a specific stainless steel cleaner containing phosphoric acid.
Before starting any treatment, be sure to have received all safety guidelines from supplier clearly. If in doubt, please contact suppliers again to seek specific clarification and advise.

Cleaners which should NOT be used on stainless steel include:
- cleaners containing chlorides, especially those containing hydrochloric acid
- hypochlorite bleaches. If accidentally spilled on any stainless steel surface, they must be thoroughly rinsed off with plenty of clean water
- Silver cleaners.

Indeed, non-stainless steel abrasive or wire wools must not be used, as they not only scratch the surface, but may also leave carbon steel deposits which can subsequently develop into rust stains, if the surface becomes damp.
In order to avoid cross-contamination caused by iron particles, make sure that the cleaning tools chosen have not been used for cleaning carbon steel before. Cleaning materials to be used on stainless steel, in fact, should be exclusively used for that purpose.

GUARANTEE:
“Through corrosion”

The casings, brackets, supports and posts produced by STRAL are all exclusively manufactured in top quality AISI 316L stainless steel.

The use of this material enables STRAL to guarantee its products against through corrosion for a period of 10 (ten) years at the following conditions:

1. that all the guaranteed components are intact, with no abrasions and/or dents caused by knocks and/or impacts;

2. that the corrosion is ‘through corrosion’, as all surface corrosion (e.g. pitting) with purely visual and aesthetical effects is not covered by this guarantee; In particular settings (i.e. close to the sea and/or in areas sheltered from the rain) superficial oxidation may occur. In these cases we recommend to perform the ordinary cleaning operations at least twice a year.

3. that not more than 10 (ten) years have passed since STRAL delivered the products.

If through corrosion should occur during the guarantee period, STRAL undertakes, upon checking the degree of the faulty parts at its own headquarters, to replace all parts which have been perforated by corrosion, free of charge.

Please note that the guarantee only covers the obligation to replace such items at the conditions illustrated above; this does not imply any compensation or reimbursement obligations of any kind, or to any parties.

Upon replacing the devices, or any parts of the same, STRAL is hence exonerated from all and any liability regarding damages caused by the defects or faults; the Client therefore hereby undertakes to forego all rights to make any claim for damages and/or expenses.

STRAL®
LIGHTING FOR LIFE

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