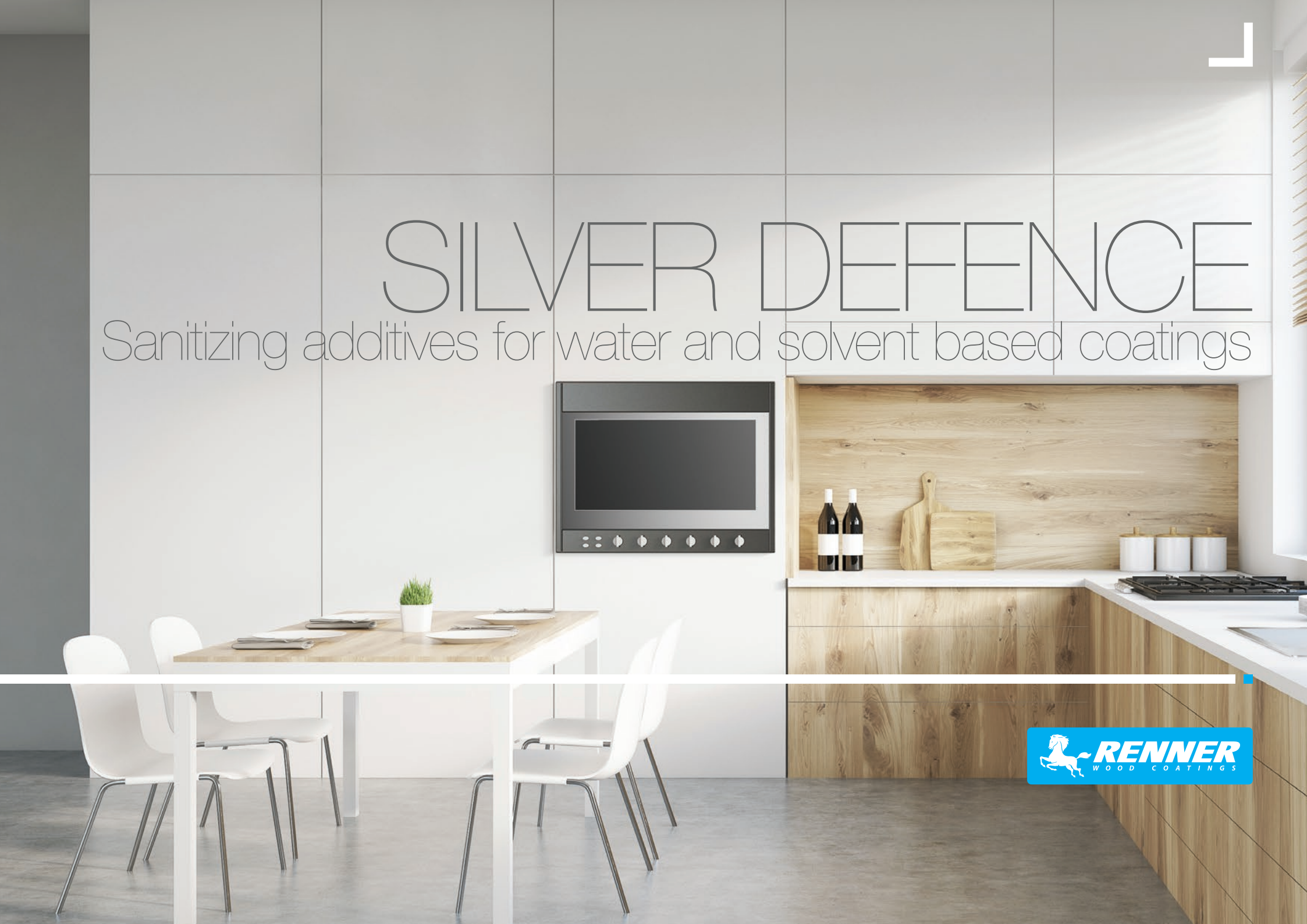
SILVER DEFENCE

Sanitizing additives for water and solvent based coatings



RENNER
WOOD COATINGS

Stop the proliferation of germs in contact with wooden surfaces

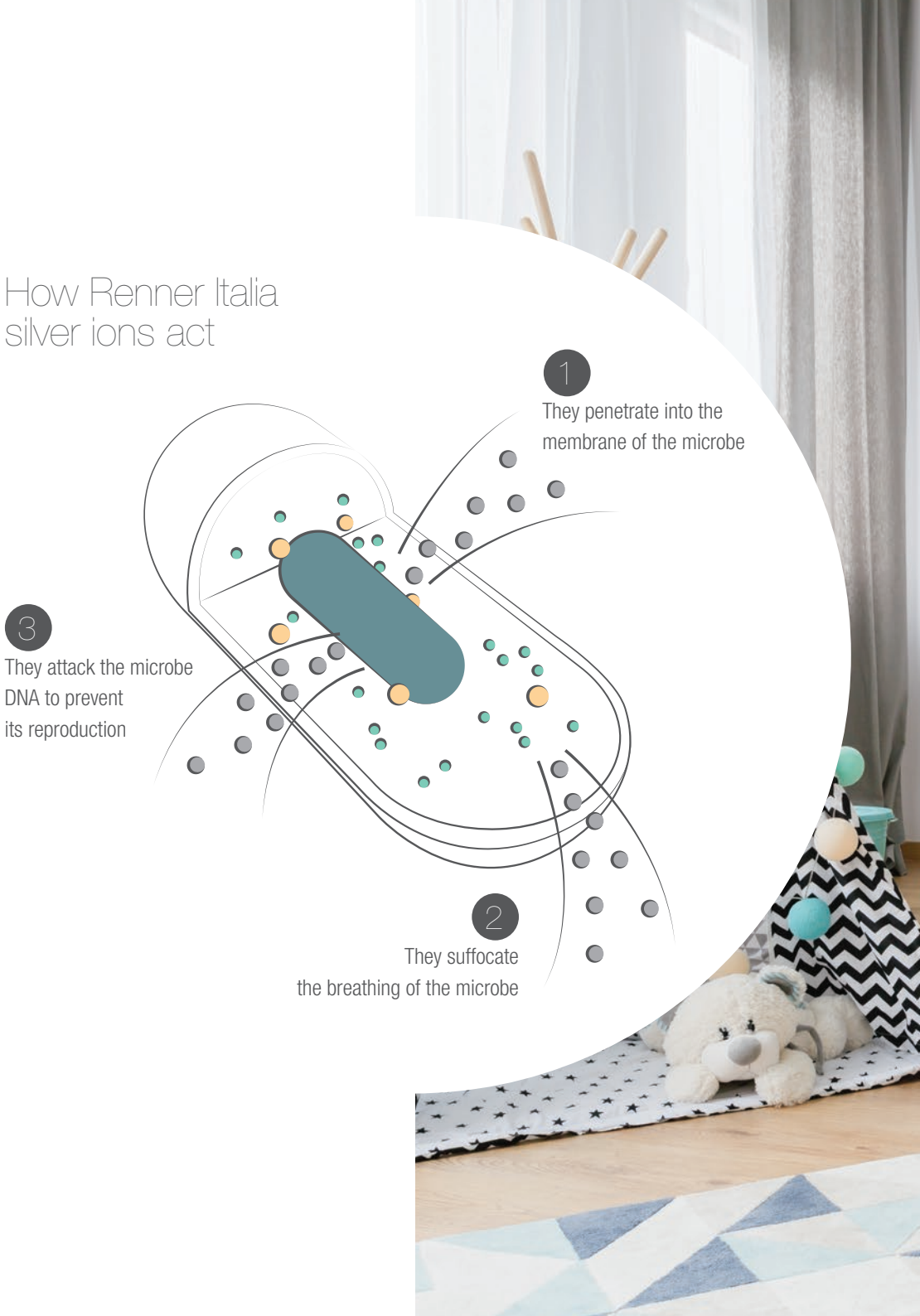
Characteristics of the new additives AY M433 and AF M466

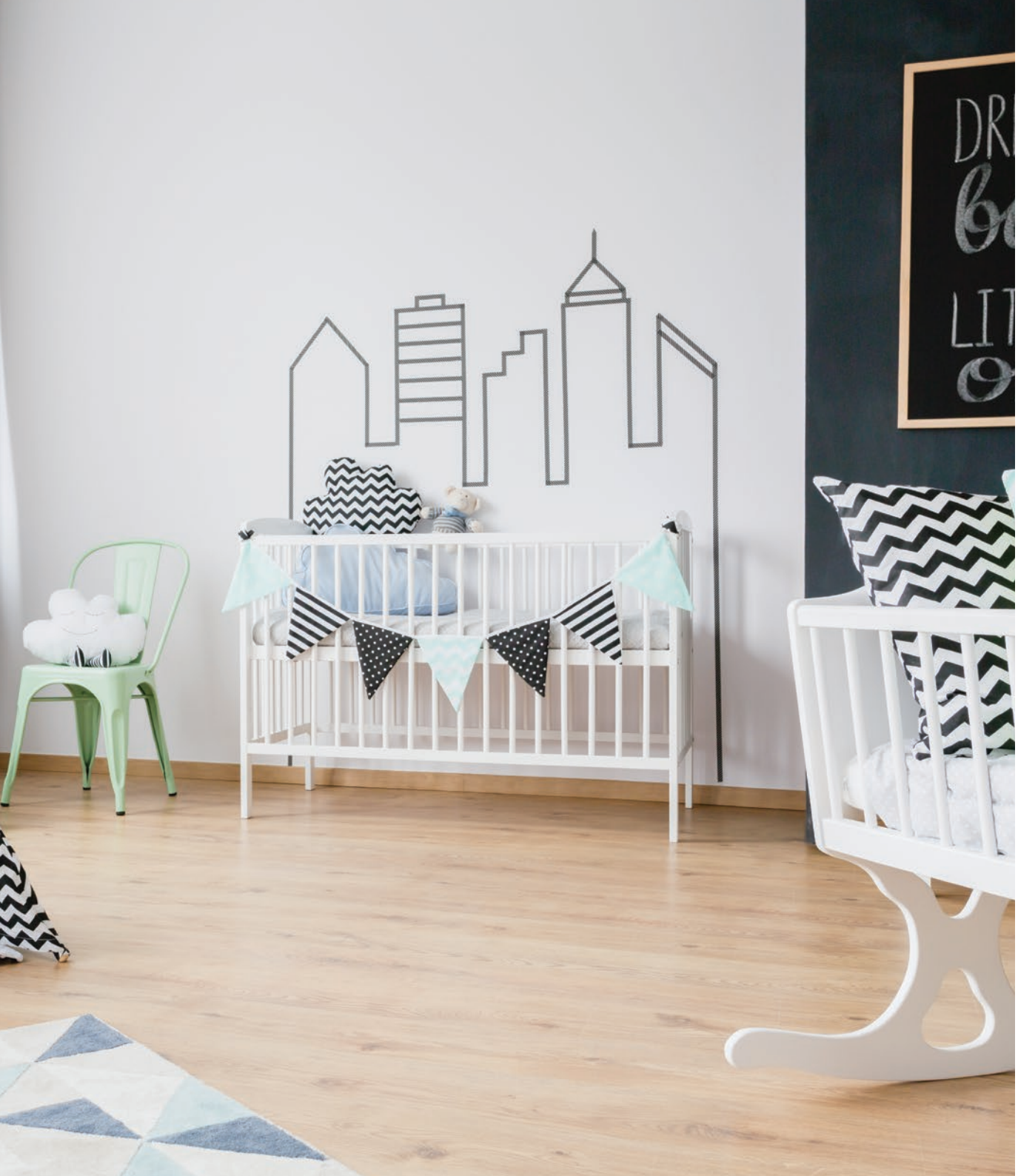
Silver Defence additives for water-based topcoats, AY M433, and for solvent-based topcoats, AF M466, unleash their effectiveness when a micro-organism comes into contact with the silver ions present on the wooden surfaces protected by Renner Italia coatings. More specifically, when the bacterial population is exposed to silver ions, it is reduced by 99,9% in just 24 hours, as proved by tests carried out by the Catas laboratory in San Giovanni al Natisone, according to the restrictive standards JIS Z 2801:2006.

The sanitizing characteristics of Silver Defence additives resist over time: from the time they are mixed with the topcoat for the entire duration of the coating, and therefore, both in their liquid and in solid state. As a matter of fact, due to their mineral nature, the silver ions maintain their condition unaltered since they cannot evaporate. Moreover, since they are encapsulated in a vitreous matrix, these micro-particles cannot be removed when cleaning the wooden object. At the same time, the powerful Silver Defence additives do not alter the characteristics of the coatings: they do not entail dangers to health and are suitable for surfaces that come into contact with food products.

The Silver Defence range, as all product ranges studied by the research and development Laboratory of Renner Italia, centers its formulation on respect for people and environment.

How Renner Italia silver ions act





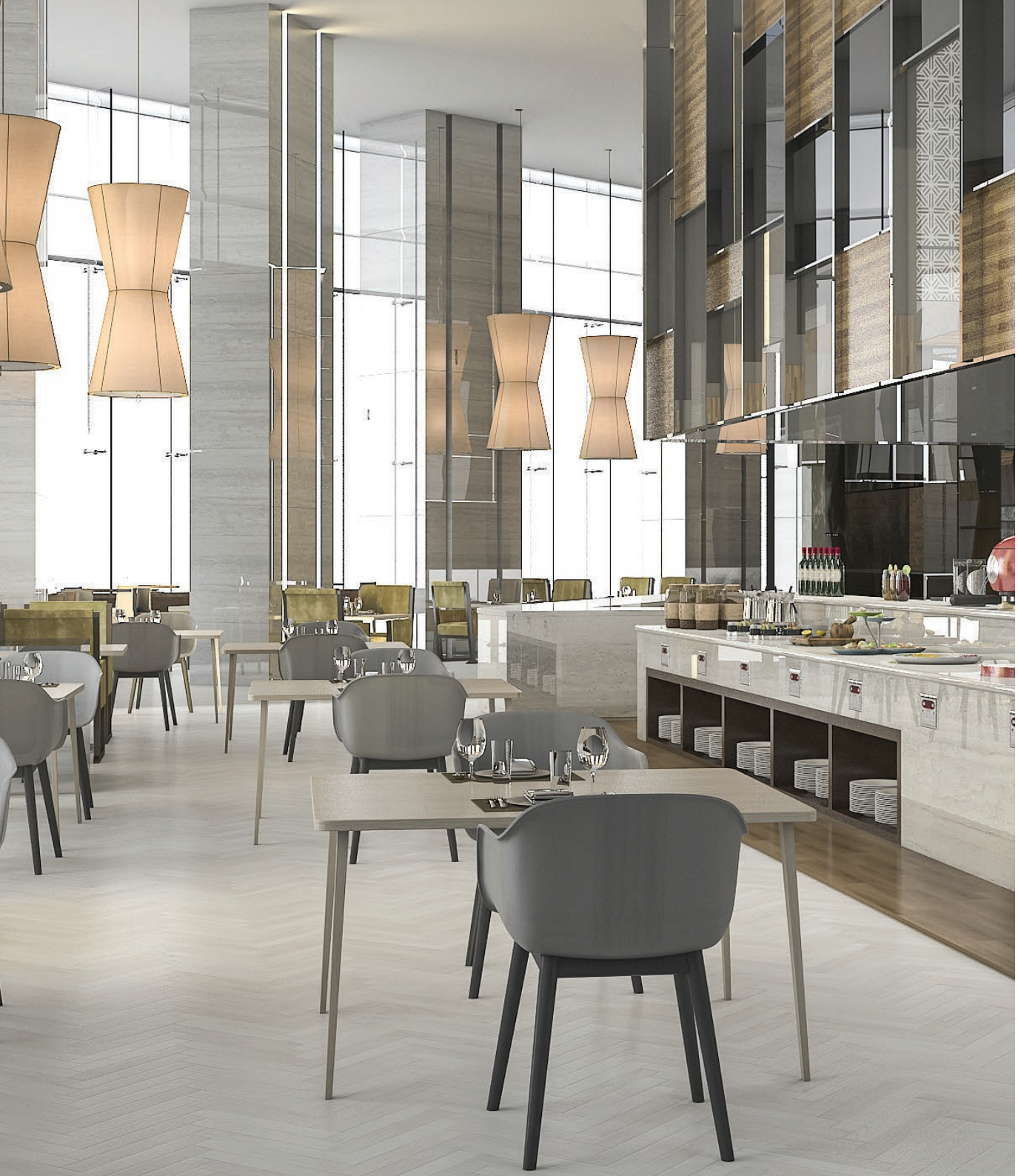
With Silver Defence the topcoat becomes a sanitizing barrier

The Silver Defence additives of Renner Italia transform the wood coatings into a formidable barrier against hygiene enemies.

The surfaces treated with coatings that contain Silver Defence additives are microbiologically shielded by special silver ions that effectively oppose the proliferation of bacteria.

Ideal for environments with high hygiene standards such as dental clinics, restaurants, bakeries, swimming pools, saunas, children bedrooms, restrooms, etc. Silver Defence additives do not alter the technical and aesthetic characteristics of the extended range of coatings products made by Renner Italia, but rather complete and enhance them with extraordinary sanitizing power.

Additive code	Average dose for use for 10 kg	Average dose for use for 25 kg
Water-based additive AY M433	100 g	250 g
Solvent-based additive AF M466	200 g	500 g

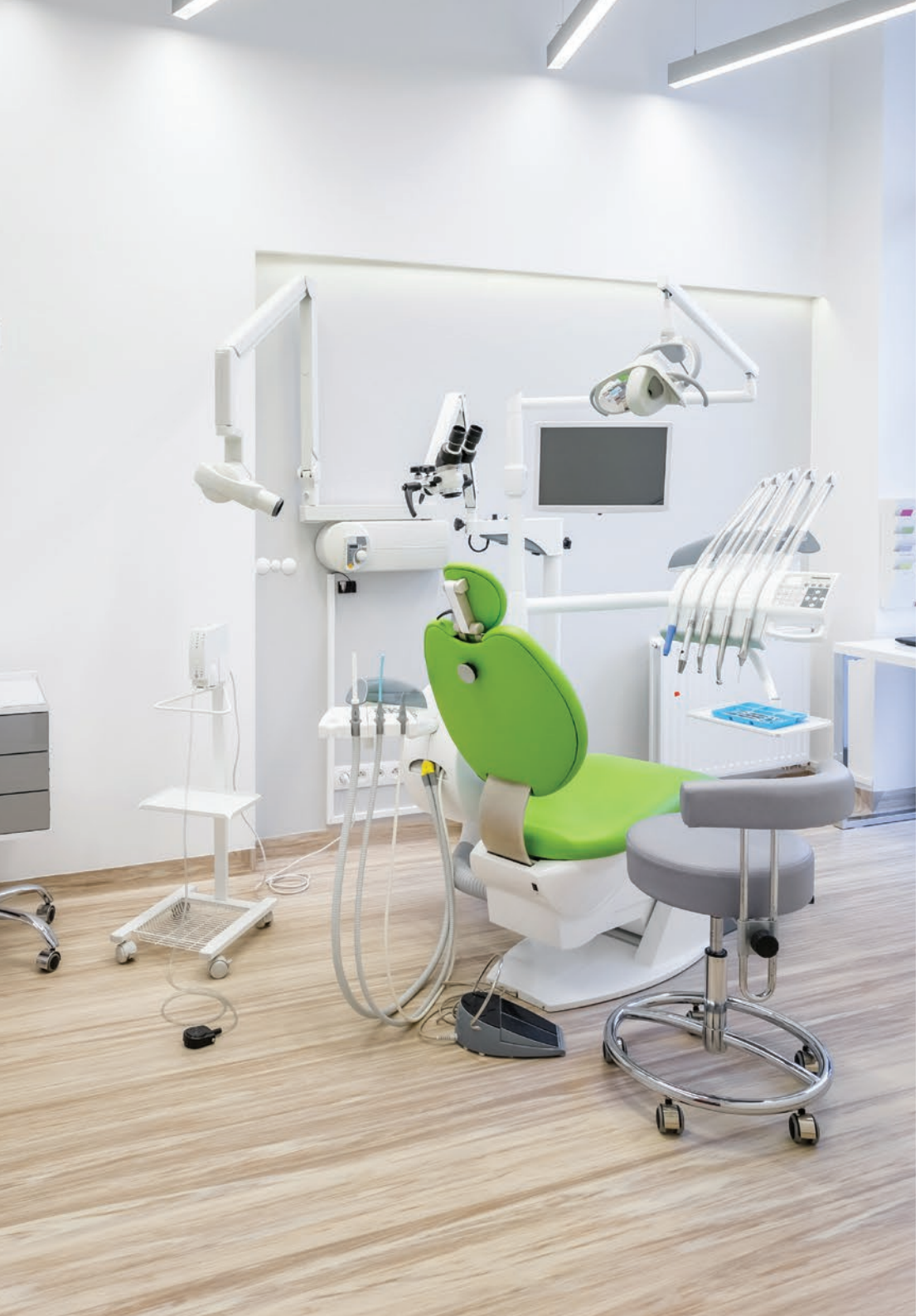


Ideal product for hygiene-sensitive areas

Thanks to its capability of micro-biologically shielding wood, the additives AY M433 and AF M466 are indicated for coating products to be applied on furniture and accessories intended to boast the trademark of hygiene.

Silver Defence additives are especially recommended for objects designed for:

1. spaces open to the public which, due to the particular service offered, must meet certain sanitizing requirements.
   More specifically: dental clinics, waiting rooms in medical centres, nurseries and schools; temples of worship; fitness centres/gyms; swimming pools; saunas; beauty centres; places where it is allowed to consume food products such as restaurants, cafeterias, bakeries, bars, fruit markets;
2. private spaces which, to ensure a higher health level of the environments, require sanitizing requirements.
   More specifically: children bedrooms, bathrooms, kitchens, parquet floors, baskets for pets.



Only transparency and benefits for the painter

The Silver Defence series of additives AY M433 (water-based) and AF M466 (solvent-based) can be mixed with any type of transparent or coloured topcoat (with the exception of redox action polyester-based products).

The additives AY M433 and AF M466 provide undeniable advantages to the painter:

1. they do not affect the applicative process already tested by the painter, who must only be careful to add the AY M433 to the water finishes in dosages on average of 1% and AF M466 to the solvent finishes in dosages on average of 2% (doses for product ready for use and inclusive of any catalysis and dilutions);
2. they maintain the already appreciated final features of the topcoats unaltered: hardness, transparency, color stability, thixotropic properties, chemical and mechanical resistance;
3. they prevent the proliferation in the warehouse of a useless and undesired number of coatings. The painter who wishes to purchase these extraordinary products for himself can continue to stock up the topcoats usually used for his activities and combine the additives purchased individually to the latter;
4. they are compatible with any type of product, thus de facto making their possible usage modes limitless;
5. they are easy to use;
6. they make costs transparent: the price of the sanitizing additive is not included in the total price of the topcoats and thus masked by it.

Silver against bacteria an ancient history

The silver ions, in contact with a broad spectrum of microbes and bacteria, prevent their growth and reproduction.

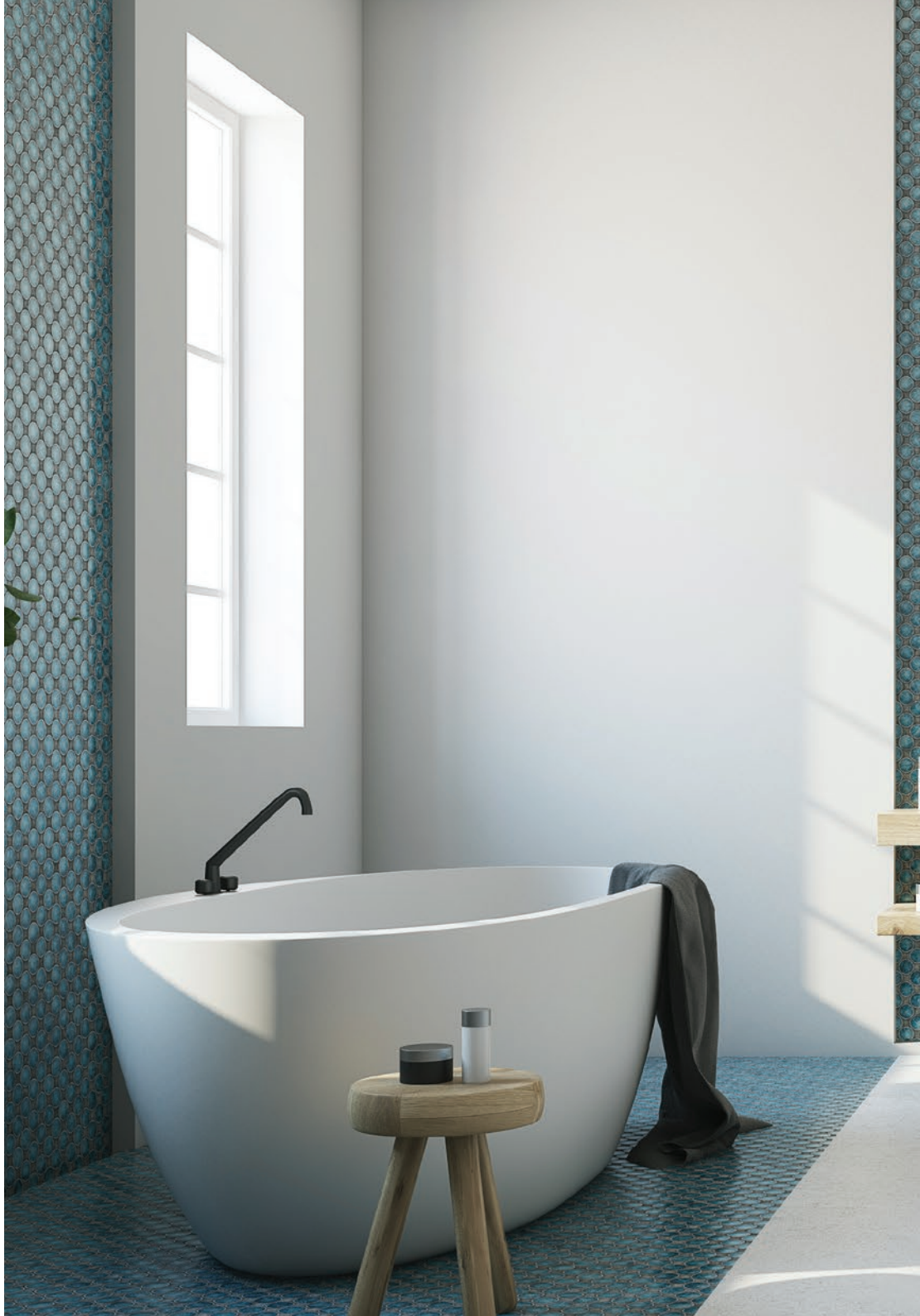
Ancient civilizations, though unaware of the chemical principles at the base of the phenomenon, made wide use of silver for maintenance, purification and treatment purposes.

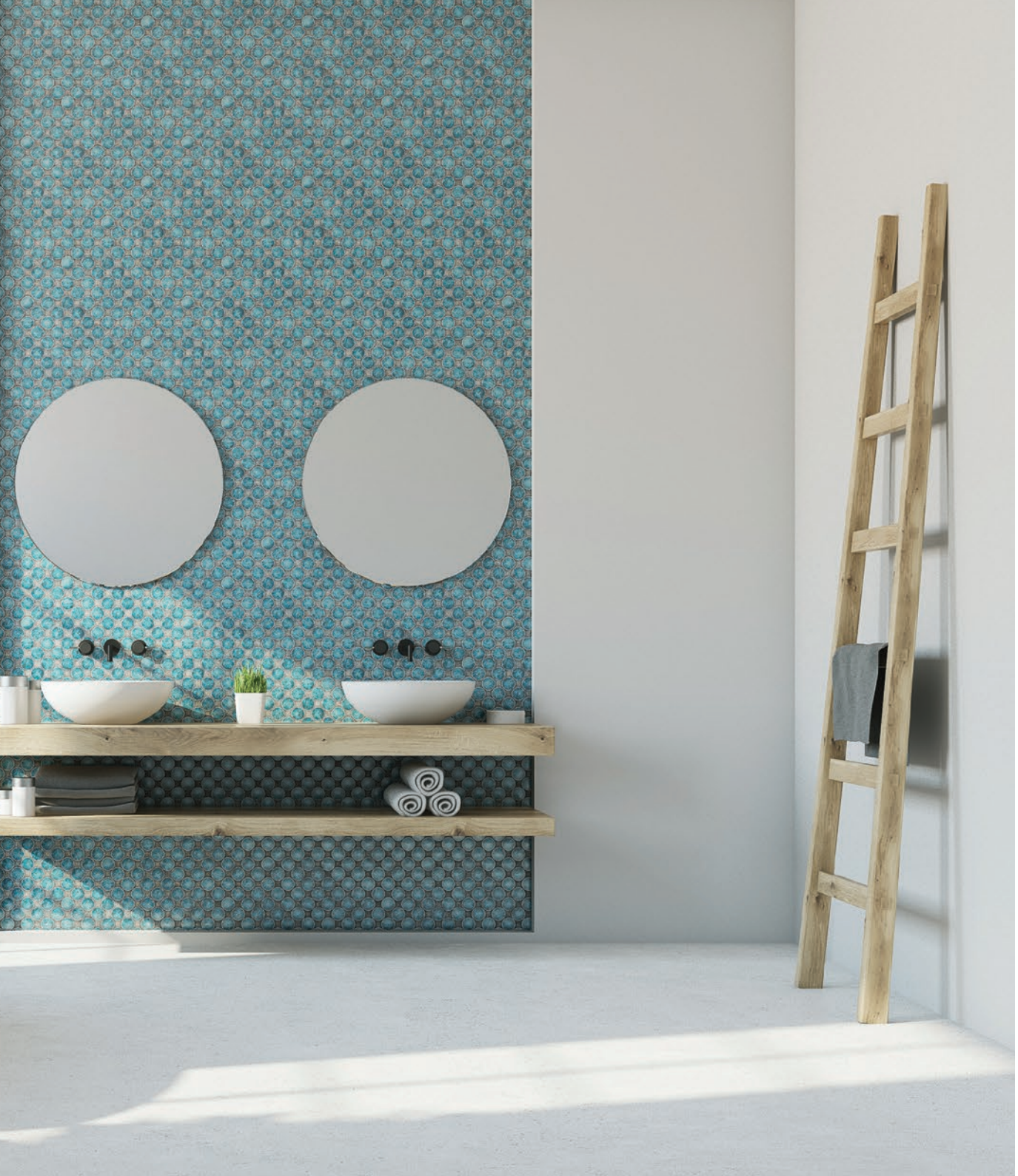
The Egyptians used silver containers to store water.

The Phoenicians transported vinegar and wine in silver vases. It was a common practice of the Romans to cure skin ulcers by applying silver objects. Starting with 1300, the Catholic Church imposed the use of silver chalices and basins in the Eucharistic liturgy to ward off the spread of illnesses amongst priests and followers.

In more recent times, in 1884, the German doctor F. Crade eradicated the disease that caused blindness in newborns by means of a medicine, whose effectiveness was closely tied to the active principle of silver.

The new technology Silver Defence has, therefore, deep roots. Today, the research and technology of Renner Italia allow to channel this ancient powerful principle into two additive products that cater to the more modern requirements of environments sensitive to hygiene standards.





Main micro-organisms present in public spaces

Gram-positive

- Staphylococcus aureus(MRSA)
- Enterococcus faecalis (VRE)
- Bacillus subtilis
- Streoptococcus faecalis
- Streptococcus pyrogenes
- Corynebacterium xerosis
- Micrococcus luteus
- Listeria monocytogenes
- Listeria welshimeri

Gram-negative

- Escherichia coli (ESBL)
- Enterobacter aerogenes
- Legionella pneumophila
- Pseudomonas aeruginosa
- Salmonella enteritidis
- Salmonella typhimurium
- Klebsielle aeruginosa
- Salmonella typhimurium
- Vibrio parahaemolyticus

Mold, fungi and yeasts

- Aspergillus niger
- Penicillium funiculosum
- Chaetomium globosum
- Gliocladium virens
- Aureobasidium pullulans
- Cladosporium cladosporoides
- Penicillium citrinum
- Candida albicans
- Saccharomyces cerevisiae

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