LOGGIA®

RESEARCH & DEVELOPMENT

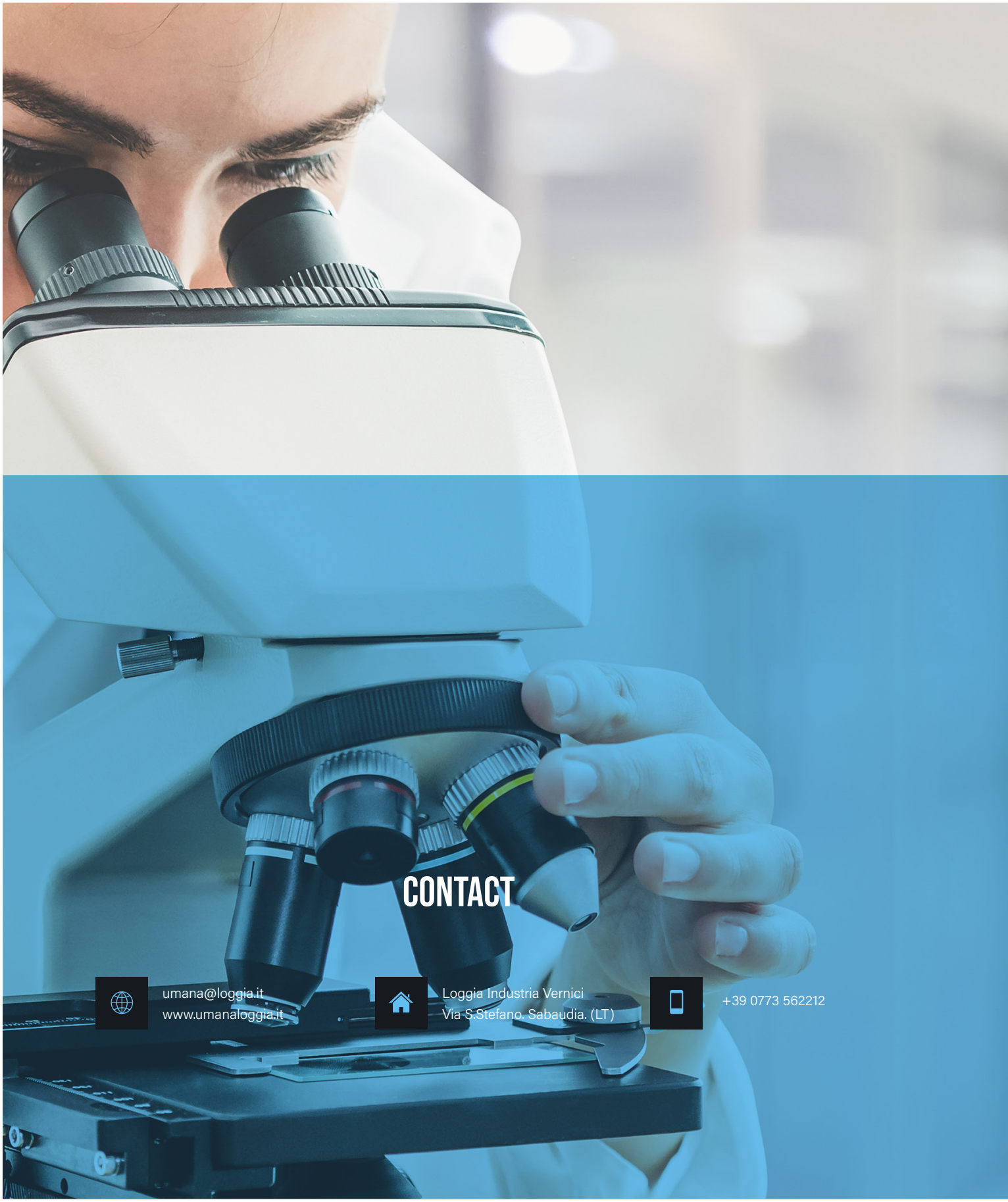
UMANA

virucidal against the SARS-COV-2 (COVID 19)

The washable photocatalytic paint over which it was led the first research project to determine the virucidal activity against the SARS-COV-2, the pathogen responsible of the Covid-19 pandemic.

The results of the research revealed that the UMANA's active substance has a strong virucidal action against the SARS-COV-2. Such effect is evident in the period of contact in the order of minutes and it generally remains steady over time.

Research project on the UMANA's virucidal ability against the SARS-COV-2, in partnership with LabAnalysis HIGH QUALITY CONTROLS.



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LabAnalysis
HIGH QUALITY CONTROLS

Analysis of the virucidal activity over surface treated with UMANA

Research project carried out with LabAnalysis, laboratory certified by the MINISTERO DELLA SALUTE, by FDA U.S. Food and Drug Administration, by the DNV-GL institution, credited by ACCREDIA, licensed by AIFA, by the MINISTERO DELLA SALUTE E DELLE POLITICHE SOCIALI, inserted in the research laboratories' list approved by the MINISTERO DELLA RICERCA SCIENTIFICA E TECNOLOGICA and authorised by the MINISTERO DELLA SALUTE to led the analytic activity.

UMANA®

PROGETTO CO - RESEARCH
"Industrial caracterization and application of mineral catalyzers, not light-sensitive, within photocatalytic painting products."
In collaboration with the Department of Chimics of the Sapienza University of Rome and the Pa.L.Mer Parco Scientifico Tecnologico del Lazio Meridionale.

LOGGIA · Pa.L.Mer. · Sapienza Università di Roma

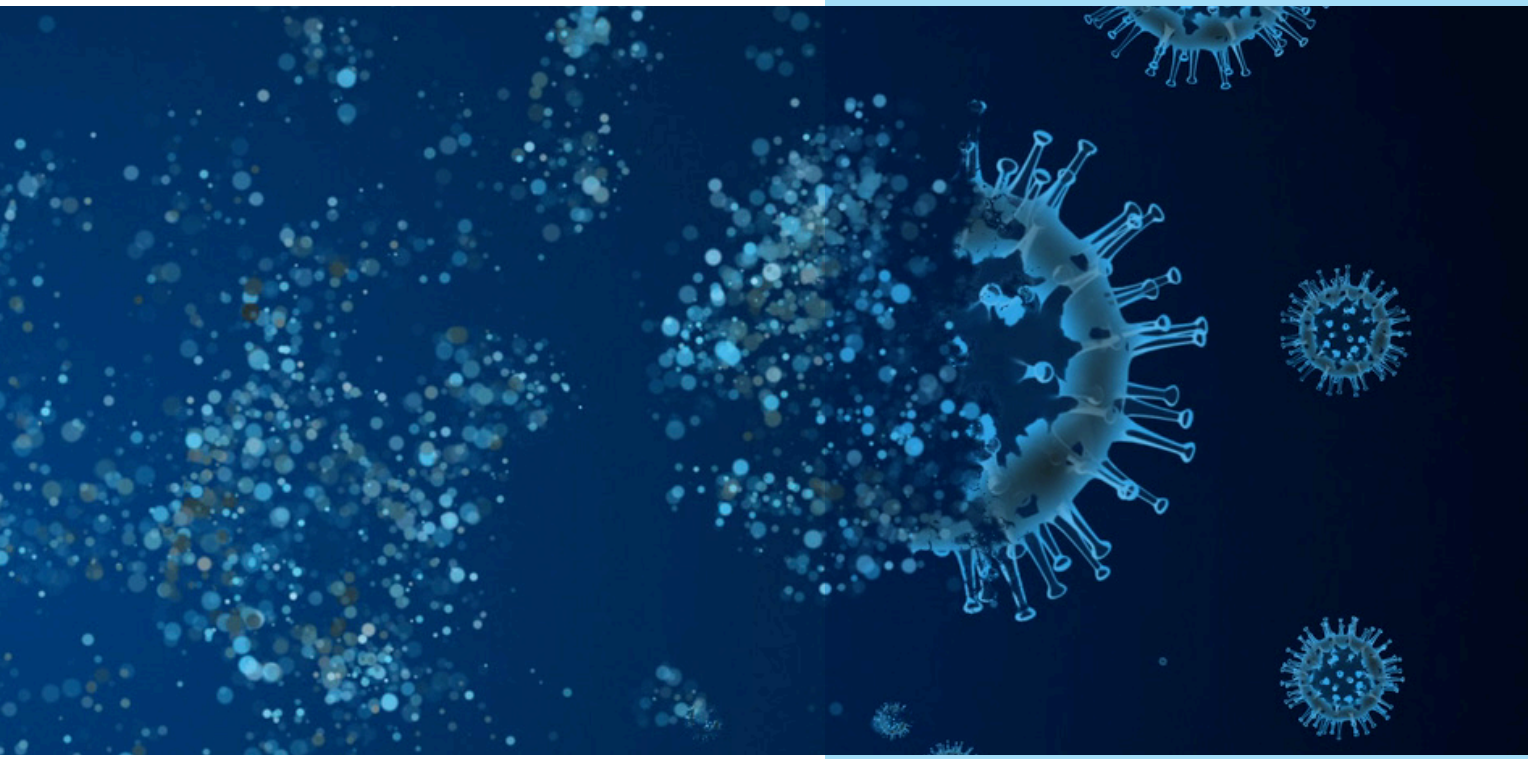
RESEARCH

UMANA®

THE FIRST PAINT OVER WHICH IT WAS LED A VIRUCIDAL RESEARCH PROJECT AGAINST THE SARS-COV-2.

SCOPE OF WORK AND SYNTHETIC METHOD. It has been tested the stability of the SARS-CoV-2 virus over surfaces treated with Umana containing its active substance.

The adopted approach was to treat the surfaces inoculating a known amount of virus (7,5x105 genomic copies) and then they have been left incubating for different times (0,1,3 and 6 hours). Thus, the residual virus has been recovered through swab (by swab containing PBS and 70% of ethanol). Therefore the samples have been processed to extract the viral RNA and measure it through Real-Time PCR, by applying a commercial kit marketed by Generon, specific for the SARS-CoV-2's RdRp gene (COVID 19 (RdRp gene) detection + Process control, PMB00C_M2). The activity has been conducted in triplicate for each sperimental point. As control, in parallel to the surface with "catalyzer", has been tested a similar surface for texture and shape, but without additive.



Results

The results of the test have been set out in the table below, in which, for each sperimental point, are reported the median Cts (cycle thresholds) for the signal of SARS-Cov-2's RdRp gene. Low values of Ct correspond to a major quantity of viral RNA present over the test-pieces; higher Cts correspond to a minor quantity of viral RNA.

Prova su superficie	Ct Vernice + Catalizzatore	Ct Vernice "mock"	Reciproco di $2^{-(\Delta\Delta Ct)}$
T= 0h	31.46	28.69	6.8
T= 1h	31.93	29.42	5.7
T= 3h	32.08	29.44	6.2
T= 6h	32.38	29.97	5.3
Media	31.96	29.38	6.0
Dev Std	0.38	0.53	0.65
RSD %	1.20	1.79	10.80

It is evident since T = 0 (which translates into a period of virus-paint contact of aproximately 10 minutes) that the UMANa paint with its active substance owns a degradative action on the SARS-COV-2 virus.

The reported values express the number of viral material's amplification cycles that it was necessary to reproduce in order to have an identifyable amount of residual virus over the paint.
You can notice in the average of the reported values that, in presence of UMANA containing catalyzer it was necessary an higher number of amplification cycles (31,96) which amounts aproximately at 1 billion and a half replicas of viral unit. Meanwhile, for a standard paint (mock) it took 29,38 cycles which amount at 250 milions of replicas of the single unit of viral material.
To sum up, it is evident that to track a virus residual on UMANA it was necessary to amplify it 6 times compared to the mock taken as reference.

What stands out from the results obtained from the research of the UMANA's virucidal ability? The efficiency of the UMANA's active substance on the elimination of SARS-COV-2 virus and such degradative effect is evident in periods of contact in the order of minutes and it remains steady over time.

LET'S DISCOVER
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LOGGIA Pa.L.Mer. SAPIENZA UNIVERSITÀ DI ROMA

PRO TECTION

Research and Development at the service of health. Attention and care to grow up together.

Umana is the first washable photocatalytic paint of wide range qualities, among which its virucidal ability that constantly and continuosly purifies air and it is guaranted by the S.A.R.C patent.

It raises from a simple necessity, that is to improve the quality of life into indoor spaces.
How? By simply purifying the air we breath and not allowing the proliferation of mould and bacteria, the depositation of smog and harmful substances over walls and the contamination of the air within inhabitated places.

This is possible thanks to its depollution ability, naturally antibacterial, virucidal and sanitizing: it fights pollutants and purifies the air within closed places (indoor spaces) and support the creation of a protective barrier from the outdoor pollution.

The S.A.R.C Patent guarantees the continuative function of the activity of UMANA's active substance. Thus, it is a warranty of the photocatalytic system's efficiency and of its constant action of destruction of substances (Virus, Bacteria, IPA, Formaldeide, Smells, Smog, Mould and more).

UMANA SINCE EVER BY YOUR SIDE AGAINST VIRUS AND BACTERIA

UMANA AGAINST THE SARS-COV-2 (COVID-19)

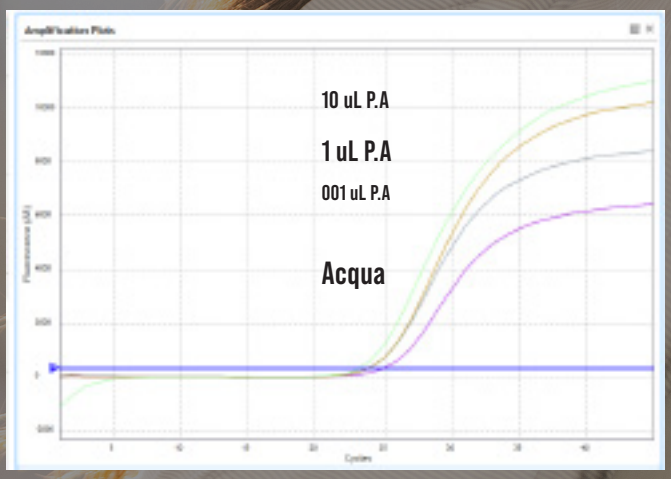
According to the actual knowledges, it is very likely that the encountered results about the virucidal activity of Umana are in reality underestimated values compared to the effective virucidal abilities of the paint against the Sars-Cov-2 responsible of the Covid 19.

UMANA's qualities

- PATENT OF THE S.A.R.C SYSTEM
- PHOTOCATALYTIC
- NATURALLY ANTIBACTERIAL
  It kills the 99,9% of Bacteria and Virus
- SANITIZING
- IPOALLERGENIC
- SPECIFIC VIRUCIDAL ABILITIES AGAINST THE SARS-COV-2 VIRUS (in just few minutes)
- IT KILLS THE FORMALDEIDE (in the first 48h)
- ANTI-MOLD
- Certified in spaces with presence of food

Indeed, it was evaluated the direct effect of the UMANA's Active Substance over the polymerization reaction.
For this purpose, the additive has been added in increasing quantities directly to the mix of reaction (containing the polymerase and the substrata required to the polymerization), together with a positive check for the RdRp gene.
From the amplification curves and the Cts values, it seems clear that the UMANA's Active Substance increases the efficiency of the polymerization reaction.
This evaluation has been executed in presence of different dosages of the RdRp gene's positive check too. (Look at Table.1)

TAB.1



In response to these data, it is hereby confirmed a strong action of the UMANA's Active Substance (P.A) over the viral material: in presence of P.A no recovery is obtained and no genomic pair is pointed out in solution.

FORUM LAB
FAQ OVER THE VIRUCIDAL ACTIVITY OF UMANA.

The laboratory that has conducted this study is one of the most certified and prestigious laboratories europeanly speaking. It collaborates with public authorities, such as the FDA (Food and Drug Administration). What is more, it is one of the few in Europe that had the chance to make test on the real SARS-COV-2 outside the medical field, the real cause of the Covid-19 disease, since it can make reference to an higher standard of bio-containment of "Level 4".

How long does the paint last? For how long is it efficient?

Taking into consideration that the S.A.R.C. system present in UMANA has a photocatalytic process at its base, the effect and the duration of UMANA qualities basically do not end, because it keeps activating over time by the light stimulation. However, it should be considered in relation to the regular duration of a paint, that is 5 years.

2-What happens if the pollutants got crystalized over the surface? Do they clean or do they need to be scraped? How does it affect the coating? Will it leave marks or will it require a repainting?

The concentration of pollutants into a closed space reaches limits that do not allow to see the crystalization. If there was an amount of crystalized pollutant visibles to the naked eye, the space itself would be unbereable. Thus, it is not necessary to repaint as Umana won't be effective.

3- Would it be suitable for the use in kitchens and food applications? If yes, which is the level of scrubbing and stains resistency?

It can be used in food-related environements without any problem: those certifications are already available on the www.umanaloggia.it website. What is more, taking into consideration that UMANA is a top-end and high quality paint, it has washable properties, a high coverage and high whiteness.

How quickly does viruses or bacteria resist over the surfaces?

Many research have already demostrated that viruses and bacteria can last for a very long time over surfaces without UMANA, as they keep living thanks to the water present in the atmospheric humidity. In normal conditions, where you apply UMANA, the latter decompose the virus in the short term: at present, this is the most important discovery obtained by the tests made on UMANA.

Do the results and statements made have been verified indipendently? By who?

As illustrated by the catalogue, the tests and evaluations have been conducted by an external and authoritative laboratoty of international reputation.

6-Patents and and trademarks, can they be applied in countries outside of Italy?

UMANA S.A.R.C SYSTEM is an international patent European - European Patent Office (EPO)

7- Does it require a specific technical application or can it be applied by anyone?
Anyone can apply UMANA as it is a simple and washable paint and it is recommended for the DIY too.

8- Which finishings does UMANA offers?
CLASSIC WASHABLE PAINT, VARNISH, SILICATE PAINTING FOR EXTERIORS, DECORATIVE LINE.

9- In which colours?
It can be applied in a selection of clear pastel colours.

10- Which tests / certifications will you provide with UMANA to support the selling?
The scientific study led by the LabAnalysis and the test results made on UMANA, the technical sheets of the product and all the certificates collected up till now. Also, they will be translated in different languages to make them accessible for anyone.

11- Zero V.O.C – thus, it has to be water-based. Can it be used for doors, carpentry etc. other than walls/ceilings?
It can be applied on doors and other supports, that's why UMANA varnish exists.

12- How does it resist to cleaning and the chemical products sprayes on it? For examples, will the finishing be affected if it will be used on the door and someone regularly cleans the handholds?
It is a washable paint, a classic cleaner that does not damage the paint.

13- How many coats / how thick does it need to be to get this result?
UMANA needs to be apply in 2 coats, thickness of a standard paint.

14- Can UMANA destroy also the pollutants present in the air or just on the surface?
Air makes quite particular movements in the space of a confined environment. It already exists a study called Canyon Cittadino, showing that thanks to different factors, the numbers state that the virus will always depositate on walls in a relatively short time (aproximately 60 minutes). Therefore, UMANA will destroy the 100% of pollutants present in the air.

15- Can you apply UMANA over a support already painted?
It can be applied over a preexisting paint, first isolating the surface with its own insulator.

16- Will it help with the smog emf, electric pollutants and wifi signals etc.?
No test has been conducted on such matter.

17- Would it be helpful with allergies?
Yes, it will. UMANA can destroy anything that is organic (BACTERIA, VIRUSES, MOULD, SMOG, SMOKE and also POLLEN).

18- Is it vegan? Certified? Does it contain animal products?
It is vegan, but not certified.

19- How long does UMANA take to get dry to be fully effective?
As soon as the paint gets dry and creates a film, that is 4/6 hours according to the weather conditions..

20- Può essere utilizzato internamente ed esternamente?

Can it be applied both on interiors and exteriors? UMANA Classic is a product for interiors. For what concearns the application for exteriors, it exists a specific product from UMANA BUILDING line at silicates and UMANA Acril siloxanes both of them with the qualities that make UMANA different.

UMANA has extremely important properties for its smog degradation ability. If you think about a city like Tokyo and if buildings were painted with UMANA, a high % of smog pollution will be destroyed, thus making the air more wholesome. You can have a measure of the anti-pollution ability of the product.

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