

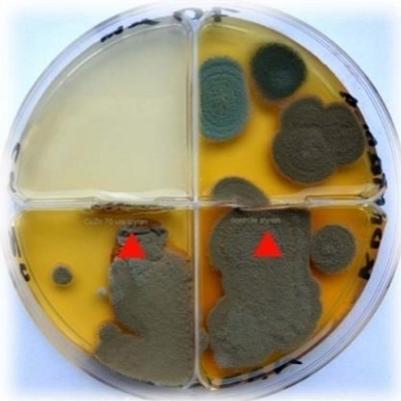


GALVI





EFFECTIVE PROTECTION OF WALLS AGAINST FUNGI!



Picture from laboratory research showing the effectiveness of the electrodes Cu-Zn. Mycelium is not able to cross the barrier (Cu-Zn)- left side, when the barrier of styrene is not effective (right side)

GALVI is an innovative and environmentally friendly paint prevents the development of harmful mold and fungi on the walls, ceilings and facades. GALVI creates hygienic, smooth and abrasion resistant coating. GALVI is recommended wherever it is required to maintain the highest standards of hygiene. GALVI paint is a response to the challenges posed by the warming climate conducive to the development and expansion of hazardous to human health fungi. An increasing part of the population lives in cities, where most of the time is spent indoors. High energy costs, heating / air-conditioning, and sometimes design errors cause that the rooms are poorly ventilated. Poor ventilation often leads to moisture penetration of walls and ceilings, creating an ideal microclimate for the development of pathogenic fungi.

Maintaining the microbiological purity of the walls and ceilings is also a key element in the production process and storage of all food industries. We are aware of the current standards, which are the specifics of the industry. As one of the few companies we are able to meet customer expectations.

Pathogenic fungi in addition to the obvious dangers posed to human health and life also lead to biodeterioration of buildings. It is a kind of biological corrosion, which accelerates the aging process and the use of building materials. Our products effectively inhibit this process helping to reduce the cost of renovation.

IMPORTANT: Our products do not contain harmful organic biocides.

Eco-friendly antifungal paint GALVI manufactured by Alcor has been developed within the framework of the Operational Programme 2014 – 2020 which is funded by the European Regional Development Fund. The Fund supports projects that contribute to the growth of innovation and research activities in the EU. GALVI is a completely Polish technology that is the subject of patent applications no: P.400025, P.404011, P.399686.



GALVI Paint most important features:

- Eco-friendly, water-based, odorless,
- Based on ecological technology of galvanic microcells, which operate only at the moment of excessive moisture penetration. With proper ventilation galvanic microcells remain at rest
- Provides long-lasting protection against fungi, mold and mildew
- Available in colors from the standard RAL or NCS
- Excellent covering power, very good performance
- Certified by National Health Institute (PZH)

Find out more: www.alcor.pl/galvi



In offer from 2015 – GALVI RANGE



GALVI range of products is a comprehensive solution for decorative and hygienic finishing walls and ceilings. Especially recommended for objects exposed to moisture, and harmful micro-organisms as well as for prophylactic use in any room . GALVI is a complete system of antifungal protection of walls, ceilings and facades. GALVI creates on the surface of the application "smart" coating, which when excessive growth of moisture penetration activate galvanic microcells, protecting surfaces against attacks by mold and fungi . With the use of galvanic microcells of copper and zinc (Zn, Cu) technology GALVI has exceptional effectiveness in the fight against pathogenic fungi and molds. **GALVI range includes:**

GALVI - To protect against fungi / mold and decorative wall and ceiling finishes. Designed for indoor applications particularly exposed to moisture as well as for use in all other areas where it is required to maintain the highest standards of hygiene: **bathrooms, kitchens, laundry rooms, bedrooms, food industry, etc.**

GALVI PLUS – 400% flexibility. To protect against fungi, mold, mildew, aging, damage and the penetration of water into the walls and elevations, as well as in basements, garages, underground car parks, halls, warehouses, etc. Resistant to frequent cleaning. For indoor and outdoor use. Designed for application in areas particularly exposed to moisture and to use in all other areas where it is required to maintain the highest standards of hygiene **elevations, lower parts of the walls in the food industry, staircases etc.**

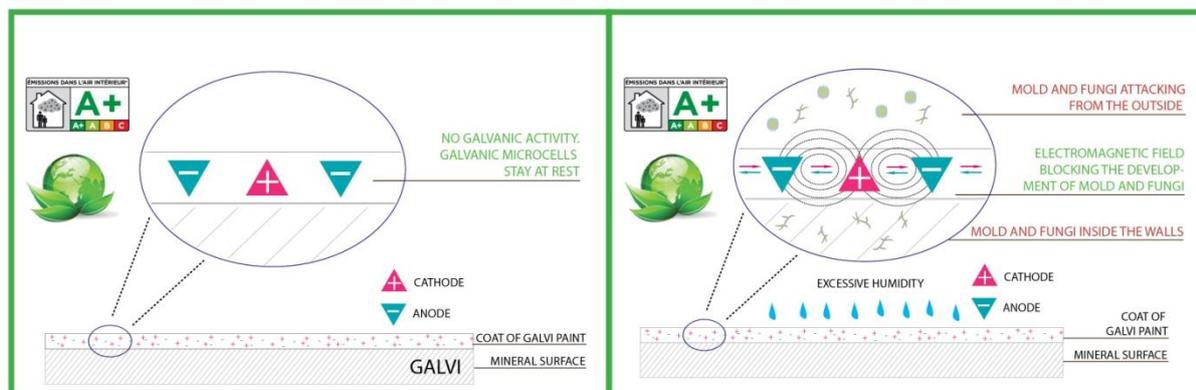
How does it work?

Proper ventilation / low humidity

Excessive humidity, condensation

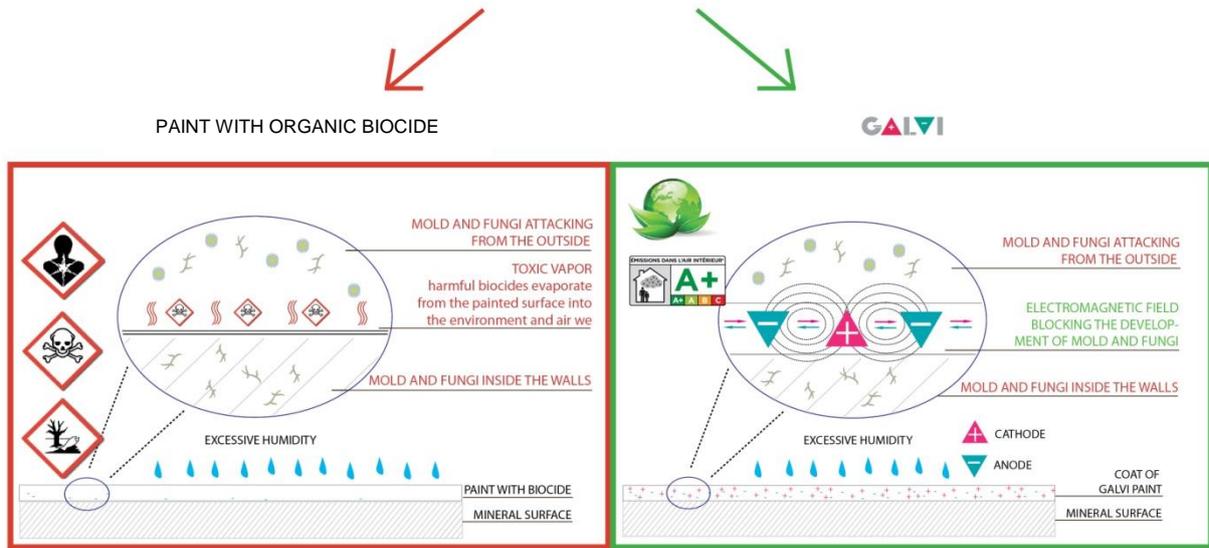
Galvanic microcells stay at rest

Galvanic microcells active



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Comparison of hygienic paints activity



Comparisons of effectiveness of hygienic paints

Paint with organic biocide

Biocontrol paint GALVI



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Paint with organic biocide



Biocontrol paint GALVI



A simple comparative experiment shows that in terms of pathogenic fungi GALVI paint containing microcells of zinc and copper is much more effective than paints containing hazardous biocides (eg. Triclosan) as a fungicide.

GALVI in practice:

1. Common problems:



Fig.1 Fungi in the corner of the kitchen caused by small leaks from water system.



Fig.2 Poorly insulated apartment - fungi visible in the corners of the walls and ceiling.



Fig.3 Bathroom with poor ventilation. The fungi visible on the ceiling.



Fig.4 Bathroom 2.5 years from the application of the GALVI system.



Fig.5 School kitchen - mold on the ceiling caused by condensation of water vapor.



Fot.6 School kitchen 2 years after the application of GALVI system.

2. Identification of pathogenic fungi in the shown cases:



Fig.7 collecting of swabs from infected apartment shown on fig.1,2.



Fig.8 Samples ready for laboratory tests.

The samples were examined In Polish Academy of Science in Krakow, Institute of Botany. Samples were expanded and indentified.



Fig.9 Cladosporium sphaerospermum from kitchen corner show on fig.1



Fig.10 Cladosporium cladosporoides, Aspergillus versicolor, Aspergillus unguis from corner of room shown on fig. nr 2.

3. Recommendations:

- Instant effective elimination of threats - applying GALVI

Build a shield with GALVI and get rid of unwanted guests from the walls and ceilings!



Fig.11 GALVI exposed to fungi collected from an infected apartment (fig.1,2) Fungi is not able to attack the painted surface.

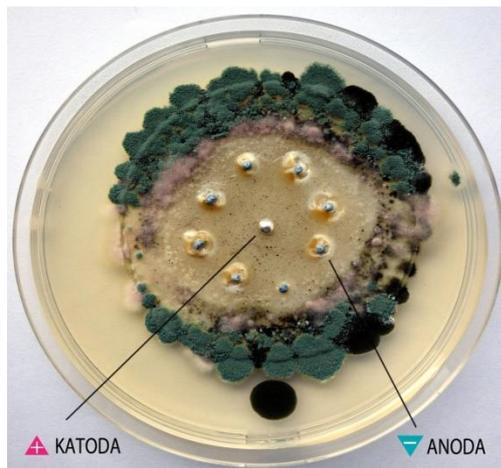


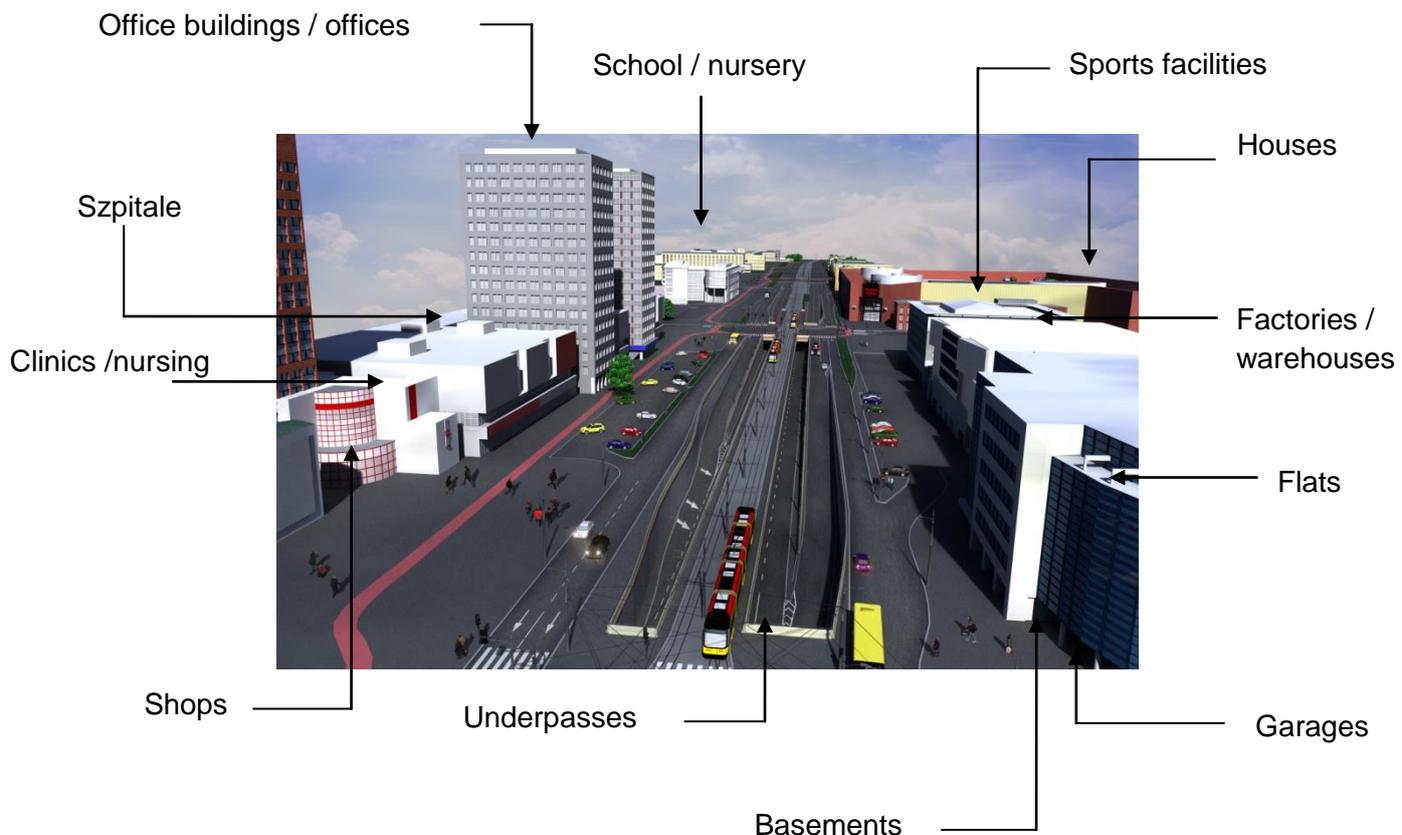
Fig. 12 Enlarged protective shield built by GALVI.

Additional recommendations :

- improve the thermal insulation of the building and the ventilation system in areas exposed to fungal attack
- Regular disinfection of air conditioners
- Regular airing
- Monitoring of areas prone to flooding
- If the object is heavily infected and mold and fungi penetrated deeply into the structure of the plaster it is advisable to additionally impregnate silver-based "Primer Ag" compatible with the system GALVI. During the overhaul infected facilities, eg. The old cellars "Primer Ag" can also be used as a liquid Mixing mortar. Old and new plaster after drying should be repainted with GALVI in order to eliminate the risk of re-development of pathogenic fungi.

Removal of fungi from walls and ceilings according to the guidelines above as well as the elimination of the causes of fungi growth will help get rid of the problem permanently. Technical advice: farby@alcor.pl

Areas of application of coating GALVI indoor



Find out more: www.alcor.pl/galvi

External areas of application GALVI PLUS



Specific use coating GALVI PLUS is shady and damp northern facades and facades shaded by trees, buildings, etc. In addition to securing staircases exposed to contamination and the growth of harmful microorganisms. GALVI PLUS protects against dirt, mildew, moss, fungi, algae, as well as the penetration of water. The coating is flexible, durable and waterproof. Protects facades for years.

Examples of objects on which to apply the system GALVI PLUS



GALVI PLUS KEY FEATURES:

- 100% waterproof coating
- 400% flexibility - it protects against cracking and peeling
- Protects against mildew, mosses, fungi and alga
- Vapour permeable - wall "breathes"
- Bridges cracks
- Resistant to dirt
- Protects concrete against carbonation
- No discoloration

Find out more: www.alcor.pl/galvi

GALVI system – exemplary areas of application:

<i>Area</i>	<i>Conditions</i>	<i>Surface</i>	<i>Coating System</i>
Food industry (dairies, slaughterhouses, breweries, bars, cafés, coffee shops, bakeries etc.)			
Production hall	Warm, humidity, condensation, frequent washing	Concrete, brick, plaster	- The lower parts of the walls: resistant to mildew and fungi, easy to clean coating GALVI PLUS - The upper parts of the walls and ceilings resistant to moisture, mold and fungi coating GALVI
Warehouse	Heavy traffic, poor supply of sunlight, artificial light, condensation, forced ventilation	Concrete, brick, plaster	- The lower parts of the walls: resistant to mildew and fungi, easy to clean coating GALVI PLUS - The upper parts of the walls and ceilings resistant to moisture, mold and fungi coating GALVI
Cold storage (walls and ceilings)	The risk of mold formation, low temperature	Concrete, brick, plaster	Resistant to moisture, mold and fungi coating GALVI
Facades	Influence of the weather, chemicals	Concrete, brick, plaster	Resistant to moisture, mildew, fungi, lichens and weatherproof coating GALVI PLUS
Housing (houses, flats, camping's etc.)			
Kitchen / bathroom / laundry room (walls and ceilings)	warm, high humidity, condensation	Concrete, brick, plaster, plasterboard panels	Resistant to moisture, mold and fungi coating GALVI
Garage / basement (walls and ceilings)	Artificial lighting, humidity, poor ventilation	Concrete, brick, plaster, plasterboard panels	Resistant to moisture, mold and fungi coating GALVI
Living room / bedroom (walls and ceilings)	Good lighting, high aesthetic	Concrete, brick, plaster, plasterboard panels	Perfectly opaque, resistant to dust and dirt coating GALVI in any color from the RAL or NCS.

External elevations/facades	Influence of the weather, chemicals	Concrete, brick, plaster,	Resistant to moisture, mildew, fungi, lichens and weatherproof coating GALVI PLUS
Public buildings (schools, kindergartens, hospitals, nursing homes, swimming pools, sewage treatment plants)			
Corridors (walls and ceilings)	Large microbiological contamination,	Concrete, brick, plaster	Resistant to moisture, mold and fungi coating GALVI
Kitchen / bathroom / laundry room (walls and ceilings)	Warm, high humidity, condensation	Concrete, brick, plaster, plasterboard panels	Resistant to moisture, mold and fungi coating GALVI
Classrooms / offices (Walls and ceilings)	Large microbiological contamination, condensation	Concrete, brick, plaster, plasterboard panels	Resistant to moisture, mold and fungi coating GALVI
External elevations/facades	Influence of the weather, chemicals	Concrete, brick, plaster	Resistant to moisture, mildew, fungi, lichens and weatherproof coating GALVI PLUS
Office Buildings			
Corridors	Forced ventilation, artificial lighting	Concrete, brick, plaster, plasterboard panels	Resistant to moisture, mildew and fungi coating GALVI
Offices „open space”	Forced ventilation, condensation, a lot of microbiological contamination	Concrete, brick, plaster, plasterboard panels	Resistant to moisture, mildew and fungi coating GALVI
Underground parking	Artificial lighting, forced ventilation, humidity	Brick, concrete, plaster	-upper parts of the walls and ceilings: Resistant to moisture, mildew and fungi coating GALVI -down parts of the walls: easy to clean coating GALVI PLUS
Agriculture			
Barns / swine / poultry houses / (walls and ceilings)	Warm, humidity, microbiological contamination,	Brick, plaster, concrete	Resistant to moisture, mildew and fungus coating GALVI
Kitchen / bathroom (Walls and ceilings)	Warm, humidity, condensation	Brick, plaster, concrete, plasterboard	Resistant to moisture, mildew and fungus coating GALVI

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		panels	
Cold storage (walls and ceilings)	The risk of mold formation, low temperature	Concrete, brick, plaster	Resistant to moisture, mold and fungi coating GALVI
External elevations/facades	Influence of the weather, chemicals	Concrete, brick, plaster	Resistant to moisture, mildew, fungi, lichens and weatherproof coating GALVI PLUS
Defense (barracks, shelters for the civilian population, food stores, etc.)			
Kitchen / bathroom / laundry room	Warm, humidity, condensation	Concrete, brick, plaster, plasterboard panels	Resistant to moisture, mold and fungi coating GALVI
Warehouse	Warm, humidity, condensation	Concrete, brick, plaster,	Resistant to moisture, mold and fungi coating GALVI
Shelter	Artificial lighting, forced ventilation, humidity	Concrete, brick, plaster,	Resistant to moisture, mold and fungi coating GALVI
External elevations/facades	Influence of the weather, chemicals	Concrete, brick, plaster,	Resistant to moisture, mildew, fungi, lichens and weatherproof coating GALVI PLUS

Find out more: www.alcor.pl/galvi