

The Strongall® specialist

META

ALUMINIUM BLUEWATER & EXPEDITION BOATS

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Technical Note

(Inorganic silicate zinc water phase METAGRIP formerly INVERSALU)

A very high quality product, it is a "long-lasting" anti-corrosion protection for metals. Easy to use, non-polluting, our product is also highly appreciated by its users for its great safety of use.

1/ PERFORMANCES

- Perfect and extremely durable resistance to constant contact with sea water (permanent immersion), fresh water, hydrocarbons, organic solvents and many chemical products (pH 5.5 to 10.5).
- Good antifouling action and ease of cleaning marine dirt.
(Anti-pollution in conformity with the decree 82-7-82 of 14.09.1982).
- Perfect and extremely durable resistance to the corrosive actions of the saline atmosphere and sea spray.
- Perfect and extremely durable resistance to constant contact with high temperatures (600° C = 1112° F) as well as to repeated thermal shocks, whether the temperature sectors are sea water, fresh water, treated water, boiling hydrocarbons, sea water or fresh water vapour, gases or radiation.
- Excellent vacuum resistance (e.g. boiler vacuum)
- Perfect and long-lasting coating on already hot-dip galvanized surfaces.
- Very good conductivity and equipotentiality. Can be combined perfectly with a cathodic protection system using sacrificial anodes, which it automatically takes over.
- Excellent welding primer: pre-treated metal elements can be welded together.
- Very high mechanical impact resistance.
- Phenomenal resistance to abrasion; the coating can be sanded, scratched, scuffed (even violently and repeatedly) without any risk of degradation or loss of efficiency;
- IT IS A PERFECT SUBSTITUTE FOR METALLIZATION OR HOT-DIP GALVANIZATION.
- Perfect adhesion of certain ranges of finishing products (additional technical data sheets suitable for many specific uses).

2/ ADVANTAGES

- Fairly wide application temperature range (unlike many protective systems).
- Fast drying, making industrial processes much easier.
- Very safe to use: 100% inorganic, water-based, non-flammable binder, non-polluting, no fumes, non-toxic, non-allergenic, easy storage of both components.

NOTICE : Our waterborne inorganic silicate zinc cures with dry heat and not with moisture like ethyl silicate zincs; applied, for example, in 2 coats totaling less than 30 microns, all long term tests conclude that the protection is equivalent or superior to that of ethyl silicate zincs for a significantly lower weight of zinc metal deposited, which makes it very competitive

3/ PRODUCT PRESENTATION

- Binder: 100% aqueous inorganic, high technology design. (density 1,18)
(density 7,14)
 - Pigment: very high purity zinc powder (density 2,676)
spécific.....
 - Ready to use product.....
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4/ AVERAGE COVERING POWER

3-4 m2 kilo for 2 coats (variable according to temperature, hygrometry, application and surface roughness).

DRY FILM (satin grey; 1 color only)

15 to 35 microns max for 2 coats - 99 % zinc (85 to 90 % in contact with underlying metal).

5/ EXCEPTIONNALLY SAFE OF USE

- Binder** : 100% aqueous inorganic: non-polluting, absolutely non-flammable, no fumes.
 - Powder** : The product is classified in group 32409 b, i.e. it gives off flammable gases
 - Finished product** : No fumes, zero toxicity, non-allergenic; it is particularly well suited, for example, to the internal treatment of tanks or closed containers.
Note: only the powder packaged in boxes is subject to a safety label).
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6/ STANDARD CONDITIONNING

Knowing that 700 g of powder + 300 g of binder = 1 kilo of product, we can split the kits using a household scale.

| | |
|--------|-----------------|
| | 6 kg kit |
| Powder | 4,2 kg |
| Binder | 1,8 kg |

7/ PRODUCT CONSERVATION

Very good; preferably protected from high heat and humidity.

Prolonged storage of the powder (+/- 18 months) can cause it to lose its floury consistency and to show zinc agglomerates (which can be broken down during mixing with a little pressure). Prolonged storage of the binder (+ - 24 months) causes a very small amount of liquid to be lost which slightly glazes the inside of the cans and sometimes leads to some deposits which can be dissolved by stirring well.

(Note: this liquid can even freeze; it will be found intact when thawed).

APPLICATION NOTE

PREPARATION OF METAL BEFORE USE

Mechanical abrasive blasting is required (dry air and no oil particles).
The required standard is DS 3 (DS 2.5 may be appropriate in some cases).
On some very soft metals (aluminum), mechanical stripping with a stainless steel wire brush that perfectly stripes the metal may be appropriate, but mechanical stripping with an abrasive jet is always preferable.
(Any attempt to apply after a different preparation leads to failure).

APPLICATION OF FIRST LAYERS ON SANDED SURFACE

As soon as possible (1 hour maximum in case of humidity limit - 5 hours maximum in dry weather).

APPLICATION TOOLS

Brush: new (or never soaked in paint or organic solvents).
(Note: pull the layers well, an excess of product is not recommended).
Airbrush: new (strongly discouraged or professional user).
(Note: some skill is required to avoid "powdering").

CLEANING OF INSTRUMENTS :

With water only; their washed reuse is not a problem.
(Note: to avoid clogging of the discharge pipes, choose a basin with a fairly large draining section if the operation is frequent).

PREPARING THE PRODUCT

Shake the binder in its original container, then pour it into a new or clean open container (which has not contained organic solvents), then slowly pour in the powder while stirring until a perfectly homogeneous mixture is obtained (use a clean stirrer and remove any lumps). (Proportions: 700 g of powder + 300 g of binder = 1 kg of product). The product is then ready to use (no curing time is required). The density of the zinc powder being higher than that of the binder, it is necessary to stir the prepared product during use in order to keep it homogeneous.

DILUTING

Not recommended except in case of extreme heat: At the most 3 to 5 % of fresh water if necessary (consult us).

(Note: no conventional solvent is suitable)

MIXED PRODUCT LIFE CYCLE

6 hours (depending on temperature).

OPTIMUM APPLICATION CONDITIONS

Dry weather (outdoors).

Hygrometry below 80%.

(Note: of course, application in a specialized workshop is ideal).

DRYING PERIOD

15-30 mn; instantaneous and without inconvenience on hot support, it can be much longer by low temperature and more important humidity (until 7 hours).

HIGH TEMPERATURE APPLICATION

If the coating is applied in direct sunlight, for example, the instantaneous drying process can sometimes produce small cracks (especially on corners or protrusions) that can cause the user to worry about the durability of the protection. They are of little importance.

Simply brush out the excess with a wire brush without necessarily adding a coat.

It is therefore preferable to cover the work before application to avoid this inconvenience.

(Note: Excessive heat will significantly increase the thickness of the coating and therefore the consumption of product).

HUMID CONDITIONS APPLICATION

If you are concerned that the coating may not dry, you can induce drying by lightly touching the freshly applied coating with a flame (with a well-regulated flame, not smoldering, of an oxidic flashlight, or propane gas). This saves a too late application of a wet evening, for example, and avoids deterioration of the coating the following night (procedure to be avoided, of course, because of the risk of damaging the coating)

CONDENSING SURFACES

They are the enemy of all types of coating and therefore of the users. In summer, especially in hot weather, one must beware of the sudden cooling of temperature which can make the surface to be treated rapidly condensing (which is not obvious to the eye).

FORCED DRYING

For an almost instantaneous drying of the individual layers, the metal surface must be heated before or after abrasive blasting. The coating can then be applied to the hot, dry surface.

There are no disadvantages to accelerating the drying of small parts in the oven.

ACCIDENTAL SOILING

If the untreated stripped surface is soiled by (inadvertent) greasy fingerprints (for example), do not degrease with an organic solvent but burn the impurities with a well regulated flame, not charring, of a hydrocarbon or propane gas flashlight. There is no need to wait until the surface has cooled before applying the coating.

INVOLUNTARY INTERRUPTION BETWEEN LAYERS

If the application between coats has been interrupted for too long (e.g. due to weather conditions), it is necessary to wash the polluted work (e.g. Saint Marc lye) and rinse thoroughly, then wait 24 hours and apply the next coat or coats.

HIGH TEMPERATURE APPLICATION

Caused by overnight condensation, they most often appear the day after an application in dry weather; they should be brushed off carefully or washed off by washing and rinsing.

(Note: they are the proof of a very good application, do not worry).

NEW COAT APPLICATION

Possible as soon as the coating is dry to the touch.

In general, it is advisable not to interrupt the work to avoid accidental pollution of the previous layers by fumes, exhaust fumes or dust (obviously, it must be ensured that the previous layer is dry).

AMOUNT OF LAYERS

On average, two, but it is essential to refer to the complementary specialized technical data sheets because, in certain cases, only one coat can be sufficient; in other very particular cases, one can go up to 4 or even 5 coats (use in antifouling for example).

(Note: in most cases, an excess of product is detrimental).

LAYERING ANOTHER PRODUCT

Please refer to the additional specialized data sheets (imperative).

CONDITIONS TO EXPOSE TO THE ELEMENTS

DO NOT EXPOSE TO OPEN AIR BEFORE : High humid temperatures: 24 hours minimum - Fresh or sea water: 48 hours minimum.