AQUAZINGA

ZM-RE-PRO-04-A (01/08/06)

Aquazinga is a 2 pack 100% water-based anti-corrosion system based on inorganic zinc silicates. Due to its high zinc content in the dry film (92%) it provides cathodic protection to ferrous metals. It can be used as a stand alone system as an alternative to hot-dip galvanisation or metallisation. Aquazinga has an excellent resistance to abrasion and is designed to withstand corrosive environments and severe conditions, including high temperatures (up to 600°C).

Physical data and technical information

- **Wet product**

Components	- water-based inorganic zinc silicate - zinc powder
Density	3,36 Kg/dm³ (± 0,05 Kg/dm³)
Solid content	- 80% by weight (± 1%) - 60% by volume (± 1%) according to ASTM D2697
Type of thinner	If necessary: water
Flash point	not applicable : water-based
Pot life	4 hours at 20°C, depending on ventilation and temperature
VOC	**0 gr/Lt**

- **Dry film**

Colour and gloss	matt grey
Zinc content	minimum 92% (± 2%) by weight, with a purity of 99,995%

Special characteristics	- atmospheric temperature resistance
	  - minimum : -90°C
	  - maximum : 550°C with peaks up to 600°C
	- pH resistance in immersion (at least 12 days after polymerisation)
	  - lower limit : 5,5 pH
	  - upper limit : 9,5 pH
	- excellent resistance to abrasion
	- excellent resistance to certain chemicals

- **Packing**

5 Kg	3,8 Kg base and 1,2 Kg binder
25 Kg	19 Kg base and 6 Kg binder

- **Conservation**

Storage	- minimum : 5°C - store in a cool and dry place
Shelf life	12 months

Application data

- **System recommendations**

Unique system	- Aquazinga is used as a stand-alone system, applied in 1 layer between 50 and 80 µm. - When applied in a DFT* higher than 120 µm the coating can start to crack. Excessive thickness should be avoided as it will reduce the effectiveness of the system.
Duplex system	- In a duplex system, Aquazinga should also be applied in one layer of 50 to 80 µm. - The surface of the Aquazinga should be free from zinc salts and other contaminations prior to application of a topcoat. - Aquazinga can be topcoated with a wide range of compatible sealers and topcoats. (To avoid pinholes when topcoated, use the mist coat/full coat technique).
Stripe-coat	It is recommended to apply a stripe-coat of Aquazinga by brush on all sharp edges, nuts and bolts and weld areas **after** the spray application.

- **Coverage and consumption**

Theoretical consumption	for 60 µm DFT : 0,31 Kg/m²
Theoretical coverage	for 60 µm DFT : 3,25 m²/Kg
Practical coverage	depends upon the roughness profile of the substrate and on the application method

- **Environmental conditions during application**

Ambient temperature	- minimum 5° C - maximum 30° C - Do not apply Aquazinga in bright and hot sunshine.
Relative humidity	- maximum 70 % - minimum 40 %
Surface temperature	- minimum 3° C above the dew point - no visual presence of water - minimum 5° C - maximum 30°C

*DFT & WFT : dry film thickness and wet film thickness ; to be measured **above the peaks** of the roughness profile

- **Drying process and overcoating**

<table>
<tr><td>Drying process</td><td colspan="3">The drying process is influenced by the total WFT, the ambient air and steel surface temperatures and the air circulation.</td></tr>
<tr><td rowspan="4">Drying time</td><td colspan="3">- for 80 µm DFT at 20° C in a well-ventilated environment :
- touch-dry : after 30 min.
- dry to handle : after 1 hour
- fully dry : after 5 hours
- for 80 µm DFT in function of different substrate temperatures :</td></tr>
<tr><td>substrate temperature</td><td>drying time before atmospheric exposure</td><td>drying time before immersion</td></tr>
<tr><td>20°C</td><td>24 hours</td><td>12 days</td></tr>
<tr><td>25°C</td><td>14 hours</td><td>7 days</td></tr>
<tr><td rowspan="5">Overcoating
(with another paint)</td><td colspan="3">for 80 µm DFT in function of different substrate temperatures :</td></tr>
<tr><td>substrate temperature</td><td>minimum drying time</td><td>maximum drying time</td></tr>
<tr><td>10°C</td><td>24 hours</td><td rowspan="4">unlimited, on condition that the zinc salts are washed off</td></tr>
<tr><td>20°C</td><td>16 hours</td></tr>
<tr><td>30°C</td><td>8 hours</td></tr>
<tr><td>40 °C</td><td>4 hours</td></tr>
</table>

Instructions for use

- **Surface preparation**

Cleanliness	- Before the application of Aquazinga the metal substrate should first be **degreased**, preferably by steam-cleaning at 140 bar at 90°C. After that it should be **grit-blasted** to cleanliness degree SA 2,5 to SA 3 according to the standard ISO 8501-1 or to the cleanliness degree described in the standards SSPC-SP10 to SP5 and NACE nr 2 to nr 1. This means that the surface must be free from rust, grease, oil, paint, salt, dirt, mill scale and other contaminants. Once the grit-blasting is completed the surface should be **de-dusted** with non contaminated compressed air according to the standard ISO 8502-3 (class 2). - Another method to obtain a clean surface is **UHP water-jetting** to cleanliness degree WJ2 according to the standards NACE nr 5 and SSPC-SP12 level SC1. But keep in mind that this method does **not** create surface roughness.
Roughness	Aquazinga should be applied on a metal substrate that has roughness degree Rz 40 to 70 µm according to the standard ISO 8503-2. This can be obtained by **grit-blasting** (with sharp particles) but not by shot-blasting (with spherical particles). **Make sure that the surface is degreased before the grit-blasting.**
Maximum time to application	Apply the Aquazinga as soon as possible on the prepared metal substrate (max. 4 hours waiting time). If contamination occurs before coating, the surface must be cleaned again as described above.

- **Special instructions**

Mixing	- Stir the binder in its original can and pour the zinc powder progressively into the binder while mixing until a homogeneous mixture is obtained. - It is necessary to filter the Aquazinga after mixing through a 150 µm (100 mesh) sieve.
Stirring	Aquazinga must be thoroughly mechanically stirred to achieve a homogeneous liquid before application. **The liquid must be stirred continuously.**
Rinsing of tools and equipment	Immediately after using the spraying equipment, it must be rinsed with fresh water. Brushes and rollers should also be rinsed with water. **Do not wait longer than 10 minutes before rinsing the spraying equipment if you have stopped spraying Aquazinga.**
Recommended application method	Aquazinga should be applied using conventional low-pressure air spray equipment (airgun or air pressure pot). Brushes should be used for small touch-ups and stripe-coats.
Special demands for spraying equipment	- For the spraying of Aquazinga, it is better to remove all filters from the pistol to avoid blockage. - The spray gun must be equipped with reinforced needle springs. - Use short tubes. - The needle and the spray tip must be made out of Tungsten carbide metal.

- **Application by roller or brush**

Viscosity	Aquazinga is ready for use. Never dilute.
Type of roller or brush	- short hair roller (mohair) - industrial round brush

- **Application by conventional low pressure air spraying**

Viscosity	Aquazinga is ready for use. Never dilute.
Pressure at gravity cup	2 to 4 bar
Pot pressure	0,8 to 1,5 bar
Nozzle opening	1,8 to 2,0 mm

- **Application as shopprimer**

Dilution	Dilute binder (part B) with 10 to 20% (in weight) pure water Mix thoroughly
Application	Only by conventional low pressure air spraying (never airless)

For more specific and detailed recommendations concerning the application of Aquazinga, please contact the Zingametall representative. For detailed information about the health and safety hazards and precautions for use, please refer to the Aquazinga **safety data sheet**.

Waiver*

* The information on this sheet is merely indicative and is given to the best of our knowledge based on practical experience and testing. The conditions or methods of handling, storage, use or disposal of the product cannot be controlled by us and are therefore outside our responsibility. For these and other reasons we retain no liability in case of loss, damage or costs that are caused by or that are linked in any way to the handling, storage, use or disposal of the product. Any claim concerning deficiencies must be made within 3 months upon reception of the goods quoting the relevant batch number. We retain the right to change the formula if properties of the raw material are changed. This data sheet replaces all former specimens.