AQUAZINGA

Aquazinga is a two pack 100% water-based anti-corrosion system based on inorganic zinc silicates.
Due to its high zinc content in the dry film (94%) 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	3,17 kg/dm³ (±0,05 Kg/dm³)
Solid content	- 84% by weight (±1%) - 63% by volume (±1%) according to ASTM D2697
Type of thinner	No thinner needed.
Flash point	N/A: water-based
Pot life	3 hours at 20°C, depending on ventilation and temperature.
VOC	**0 g/L**

DRY FILM

Colour	Grey
Gloss	Matt
Zinc content	94% (±1%) by weight, with a purity of 99,995%
Special characteristics	- Atmospheric temperature resistance of dry film » Minimum: -90°C » Maximum: 450°C with peaks up to 600°C - pH resistance in immersion (at least 12 days after polymerisation) » Lower limit: 3,5 pH » Upper limit: 10,5 pH - Excellent resistance to abrasion - Excellent resistance to certain chemicals

PACKING

10 kg	Available in 7,6 Kg powder and 2,4 Kg binder
25 kg	Available in 19 Kg powder and 6 Kg binder

CONSERVATION

Shelf life	12 months in the original, unopened package.
Storage	Store in a dry environment at temperatures above 5°C.

CONDITIONS

SURFACE PREPARATION

Cleanliness	Before the application of Aquazinga the metal substrate should first be **degreased**, preferably by **steam-cleaning at 140 bar at 80°C**. After that it should be blasted (clean abrasive) to cleanliness degree SA 2,5 to **SA 3 (preferred)** according to the standard ISO 8501-1:2007 or to the cleanliness degree described in the standards SSPC-SP10 to SP5 and NACE No. 2 to No. 1. The surface must be free from rust, paint, salt, dirt, mill scale and **especially oil grease and paint**. Once the blasting is completed the surface should be **de-dusted with non contaminated compressed air** according to the standard ISO 8502-3 (min. Class 2). Another method to obtain a clean surface is **UHP water-jetting** to cleanliness degree NACE WJ1. But keep in mind that this method does not create surface roughness.
Roughness	Aquazinga should be applied on a metal substrate that has a roughness grade of 25 to 50 µm Rz. **Make sure that the surface is degreased before the blasting.**
Maximum time to application	Apply the Aquazinga as soon as possible on the prepared metal substrate before any contamination or corrosion occurs. Otherwize the surface must be cleaned again as described above.

ENVIRONMENTAL CONDITIONS DURING APPLICATION

Ambient temperature	- Minimum 5°C - Maximum 35°C - Do not apply Aquazinga in bright and hot sunshine
Relative humidity	- Minimum 35% - Maximum 90% - Do not apply on a damp or wet surface
Surface temperature	- Minimum 3°C above the dew point. - Minimum 5°C - Maximum 30°C

APPLICATION INSTRUCTIONS

GENERAL

Application methods	Aquazinga can be applied on a clean surface by brush (small touch up or stripe coats) or conventional spray-gun **but not by airless spraying**.
Stripe coat	It is always recommended to treat corners, edges, bolts and nuts before applying a uniform coat. Where access is awkward or difficult, stripe-coating must be carried out using a short-fibre roller or brush. Where there is adequate access, stripe-coating must be done by spray, using a narrow fan-width and by applying a very thin coat of approximately 30 µm DFT.

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 recommended 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.**
Cleaning	Immediately after using the spraying equipment, it must be rinsed with fresh water. Brushes should also be rinsed with water. **Do not wait longer than 10 minutes before rinsing the spraying equipment if you have stopped spraying Aquazinga.**

APPLICATION BY BRUSH

Dilution	Aquazinga is ready for use. No induction time. **Never dilute.**
Type of brush or roller	Industrial round brush

APPLICATION BY CONVENTIONAL SPRAY-GUN

Dilution	Aquazinga is ready for use. No induction time. **Never dilute.**
Pressure at gravity cup	2 to 4 bar
Pot pressure	0,8 to 1,5 bar
Nozzle opening	1,2 to 1,8 mm
Special demands for spraying equipment	- For the spraying of Aquazinga, it is better to remove all filters from the pistol to avoid blockage. - The fluid-hose and air-line between the pressure-pot and the gun must not exceed 5 metres in length.

OTHER INFORMATION

COVERAGE AND CONSUMPTION

Theoretical coverage	- For 60 µm DFT: 3,12 m^2/kg - For 80 µm DFT: 2,34 m^2/kg
Theoretical consumption	- For 60 µm DFT: 0,32 kg/m^2 - For 80 µm DFT: 0,43 kg/m^2
Practical coverage and consumption	Depends upon the roughness profile of the substrate and the application method.

DRYING PROCESS AND OVERCOATING

Drying process	The drying process is influenced by the total WFT, the ambient air (humidity and temperature) and the steel surface temperatures. A minimum relative humidity of 35% is required. **Aquazinga should not be dried outdoors, or it should be protected from rainfall during drying process.**
Drying time	For 80 µm DFT at 20°C (ambient temperature) in a well-ventilated environment: - Touch dry: 30 minutes - Dry to handle: 1,5 hours Drying time is strongly dependent on relative humidity values. Avoid direct contact with water for at least 24 hours. The drying time before immersion should be at least one week, preferably two weeks. Too strong air circulation resulting in a very rapid water evaporation is negative and substrate temperature shouldn't be above 30°C. **No oven drying.**
Overcoating (with another paint)	For 80 µm DFT in function of different ambient temperatures:

Ambient temperature	Minimum drying time*	Maximum drying time
10°C	6 hours*	Limited; if overcoated after 48 hours after fully cured, zinc silicates and salts might prevent good adhesion to subsequent topcoat.
20°C	2 hours*	
30°C	1,5 hours*	

***After touch dry**
It is advised to apply any topcoat with a **mist/full coat** technique for degassing. The full coat can be applied 15-30 min after the mist coat.

RECOMMENDED SYSTEM

Unique system	- Aquazinga is used as a stand-alone system, applied **in 1 layer to 75 µm DFT (tested according to ISO 12944-6 C5 High)**. 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 DFT. - 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. For application of water-based topcoats, contact Zingametall representative.

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, refer to the Aquazinga safety data sheet.