

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 (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/dm ³ (±0,05 Kg/dm ³)
Solid content	- 83% 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	Mat
Zinc content	92% (±2%) by weight, with a purity of 99,995%
Special characteristics	- Atmospheric temperature resistance of dry film » 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

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 90°C. After that it should be grit-blasted (clean grit) 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 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 a roughness grade of fine to medium G (Rz 40 to 70 µm) according to the standard ISO 8503-2:2012. 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 gritblasting.
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.

ENVIRONMENTAL CONDITIONS DURING APPLICATION

Ambient temperature	- Minimum 5°C - Maximum 30°C - Do not apply Aquazinga in bright and hot sunshine
Relative humidity	- Minimum 40% - Maximum 90% - Do not apply on a damp or wet surface
Surface temperature	- Minimum 3°C above the dew point. - Minimum 5°C - Maximum 25°C

APPLICATION INSTRUCTIONS

GENERAL

Application methods	Aquazinga can be applied on a clean surface by brush and roller (small touch up or stripe coats) or conventional spray-gun but not by airless spraying.
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Stripe coat	It is always recommended to treat corners, sharp edges, bolts and nuts before applying a uniform coat.
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 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.

APPLICATION BY BRUSH AND ROLLER

Dilution	Aquazinga is ready for use. Never dilute.
Type of brush or roller	Industrial round brush Short hair roller (mohair)

APPLICATION BY CONVENTIONAL SPRAY-GUN

Dilution	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	1,2 to 1,5 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 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.

OTHER INFORMATION

COVERAGE AND CONSUMPTION

Theoretical coverage	- For 60 µm DFT: 3,25 m²/kg - For 80 µm DFT: 2,34 m²/kg
Theoretical consumption	- For 60 µm DFT: 0,32 kg/m² - For 80 µm DFT: 0,43 kg/m²
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. 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 - Fully cured: 48 hours Please contact the Zingametall representative for resistance to chemicals and/or water. Forced air circulation is negative and substrate temperature shouldn't be above 25°C. No oven drying. For 80 µm DFT in function of different ambient temperatures: <table><tr><th>Ambient temperature</th><th>Drying time before atmospheric exposure</th><th>Drying time before immersion</th></tr><tr><td>20°C</td><td>24 hours</td><td>7-14 days</td></tr><tr><td>25°C</td><td>14 hours</td><td>7-14 days</td></tr><tr><td>30°C</td><td>10 hours</td><td>7-14 days</td></tr><tr><td>35°C</td><td>8 hours</td><td>7-14 days</td></tr></table> Drying time before immersion is strongly dependant on relative humidity values. Avoid direct contact with water for at least a week. Please contact a Zingametall representative for immersion of Aquazinga.			Ambient temperature	Drying time before atmospheric exposure	Drying time before immersion	20°C	24 hours	7-14 days	25°C	14 hours	7-14 days	30°C	10 hours	7-14 days	35°C	8 hours	7-14 days
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Overcoating (with another paint)	For 80 µm DFT in function of different ambient temperatures: <table><tr><th>Ambient temperature</th><th>Minimum drying time*</th><th>Maximum drying time</th></tr><tr><td>10°C</td><td>24 hours*</td><td rowspan="4">Limited; if overcoated after 48 hours after fully cured, Zinc Silicates might prevent good adhesion to subsequent topcoat.</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> Please contact the Zingametall representative for overcoating with a water based paint. * After fully cured.			Ambient temperature	Minimum drying time*	Maximum drying time	10°C	24 hours*	Limited; if overcoated after 48 hours after fully cured, Zinc Silicates might prevent good adhesion to subsequent topcoat.	20°C	16 hours*	30°C	8 hours*	40°C	4 hours*			
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RECOMMENDED SYSTEM

Unique system	- Aquazinga is used as a stand-alone system, applied in 1 layer between 80 and 90 µm DFT or 2 layers of 60 µm DFT. - 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. * DFT: Dry Film Thickness; to be measured above the peaks of the roughness profile.
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. To avoid pinholes when topcoated, use the mist coat/full coat technique. 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.