ALU ZM

Alu ZM is a quick drying one pack coating based on aluminium flakes. It can be applied directly onto old, uncorroded hot-dip galvanised or thermal sprayed zinc substrates or as an aluminium topcoat on ZINGA. It can be applied by brushing or spraying in a wide range of atmospheric circumstances. Alu ZM is mainly applied for aesthetical reasons as it gives a shiny aluminium aspect, but it also has good chemical and abrasion resistance which allows it to be used in industrial environments.

PHYSICAL DATA AND TECHNICAL INFORMATION

WET PRODUCT

Components	- Aluminium powder - Aromatic hydrocarbons - Binder
Density	1,01 kg/dm³ (± 0,05 kg/dm³) at 20°C
Solid content	- 34% by volume (± 2%) - 29% by weight (± 2%)
Thinner	Zingasolv
Flash point	≥ 40°C - 60°C
VOC	622 g/L

DRY FILM

Colour	Aluminium
Gloss	Metallic shine
Special features	Atmospheric temperature resistance of dry film » Minimum: -40°C » Maximum: 120°C with peaks up to 150°C - pH resistance in immersion: 5,5 pH to 9,5 pH. - pH resistance in atmospheric conditions: 3,5 pH to 12,5 pH. - Excellent UV resistance

PACKING

1 L	Available. Packed in undividable boxes of 6 x 1 L
2,5 L	Available
15 L	Available

CONSERVATION

Shelf life	Unlimited in the original, unopened package. In case of long time storage it is recommended to shake the unopened tin in an automatic shaker at least once every 3 years.
Storage	Store in a cool and dry place at temperatures between 15°C and +25°C.

CONDITIONS

SURFACE PREPARATION

Cleanliness	- Application on ZINGA: the surface should be free of zinc salts and other contaminations. That means that the **Alu ZM should be applied within 24 hours after the application of ZINGA**. In case the application of the Alu ZM can only be done after 24 hours, the ZINGA surface should first be washed preferably by **steam cleaning** at 140 bar at 80°C or with a **sweep blast.** - Application on HDG (old and new): the surface must be free from rust, grease, oil, paint, salt, dirt, mill scale and other contaminants. This can be achieved through steam cleaning, HP washing or solvent cleaning.
Roughness	- Application on ZINGA: a freshly Zinganised surface has an adequate roughness for application of Alu ZM. Alu ZM can be applied without any operations for creating surface roughness. - Application on HDG (old an new): the surface should be roughened by blasting with wet inert product, by using Scotch Brite, a bristle blaster or a nylon brush.
Maximum time to application	Apply the Alu ZM as soon as possible on the prepared substrate. » In dry circumstances: max 24 hours waiting time. » If the relative humidity is close to 80%: 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 -15°C - Maximum 40°C
Relative humidity	- Maximum 95% - Do not apply on a damp or wet surface
Surface temperature	- Minimum 3°C above the dew point. - No visual presence of water of ice - Maximum 60°C
Product temperature	During application the temperature of the Alu ZM liquid should remain between 15 and 25°C. A lower or higher temperature of the product will influence the smoothness of the film when drying.

APPLICATION INSTRUCTIONS

GENERAL

Application methods	Alu ZM can be applied on a clean surface by brush or conventional spray-gun or by airless spraying.
Stripe coat	it is always recommended to treat corners, sharp edges, bolts and nuts before applying a uniform coat.
Stirring	Alu ZM must be **thoroughly mechanically stirred** to achieve a homogeneous liquid before application. After a maximum of 20 minutes, re-mixing is necessary.
Cleaning	Before and after using the spraying equipment, it must be rinsed with fresh Zingasolv. Brushes should also be rinsed with Zingasolv. **Never use White Spirit.**

APPLICATION BY BRUSH AND ROLLER

Dilution	Alu ZM is ready for use when applied by brush. For best results, dilute 3 to 5%. Alu ZM should **not be applied by roller.**
First layer	Wait until ZINGA is sufficiently dry before application of first layer by brush (4 hours after touch dry).
Type of brush	Industrial round brush

APPLICATION BY CONVENTIONAL SPRAY-GUN

Dilution	10-20% (mass on mass) with Zingasolv depending on nozzle size. More dilution for same nozzle size will give a smoother surface finish.
Pressure at the nozzle	2 to 4 bar
Nozzle opening	1,4 to 1,8 mm

APPLICATION BY AIRLESS SPRAYING

Dilution	5-10% (mass on mass) with Zingasolv depending on nozzle size. More dilution for same nozzle size will give a smoother surface finish.
Pressure at the nozzle	± 150 bar
Nozzle opening	0.017 - 0.031 inch; 0.015-0.025 inch for smoother finish.

OTHER INFORMATION

COVERAGE AND CONSUMPTION

Theoretical consumption	- For 40 µm DFT: 8,50 m²/L - For 60 µm DFT: 5,67 m²/L
Theoretical coverage	- For 40 µm DFT: 0,12 L/m² - For 60 µm DFT: 0,18 L/m²
Practical coverage and consumption	Depends upon the roughness profile of the substrate and the application method.

DRYING PROCESS AND OVERCOATING

Drying process	Alu ZM dries by evaporation of the solvent. The drying process is influenced by the total WFT, the number of coats applied, the ambient air (humidity and temperature) and the steel surface temperatures.
Drying time	For 40 µm DFT at 20°C in a well-ventilated environment: » Touch dry: 25 minutes » Dry to handle: 1,5 hours » Fully cured: 24 hours
Overcoating with a new layer of Alu ZM	- 1 hour after touch dry with spray. 4 hours after touch dry by brush. - Any intermediate coat contamination that could disturb the adherence of the next coat should be removed by appropriate cleaning.
Reliquidisation	Each new layer of Alu ZM reliquidises the former Alu ZM layer so that both layers form one homogeneous layer.

RECOMMENDED SYSTEM

Unique system	Alu ZM can be applied on (old) hot-dipped or metallised structures in 1 or 2 layers: Alu ZM 1 / 2 x 60 µm DFT. **Do not apply Alu ZM in 1 layer more than 60 µm DFT** (risk for solvent entrapment resulting in system failure).
Duplex system	In a duplex system, Alu ZM should be applied in one single application to obtain a DFT between 40 and 60 µm, on a ZINGA layer of 1 or 2 times 60 µm DFT: ZINGA 1 / 2 x 60-80 µm DFT + Alu ZM 1 x 40-60 µm DFT

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