ProFLAKE® Zinc Flake Pigments –
A Perfect Combination of Galvanic Protection and Barrier Effect
ProFLAKE® – successfully used in corrosion protection for decades

Railway bridge in Immenstadt, Germany
- three-layer commercial system (epoxy primer – ProFLAKE® Zn 2000, epoxy-micaceous iron oxide, PU top coat)
- 25 years of exposure (C3 environment)

Single layer lamp post polyester coating
- ProFLAKE® Zn 2000 and STAPA® 2 n.l.
- C2 rural environment

ECKART proprietary developed and certified C5 paint system
- three-layer system (epoxy primer – ProFLAKE® Zn 2000, epoxy-micaceous iron oxide, PU top coat)

Singe layer lamp post polyester coating
- ProFLAKE® Zn 2000 and STAPA® 2 n.l.
- C2 rural environment

ProFLAKE® Zinc Flake Pigment Portfolio for Heavy Duty Applications

ProFLAKE® zinc pigments combine the two positive aspects of a barrier effect with galvanic protection, leading to superior anticorrosion performance in heavy duty applications.

Your benefits compared to traditional solutions

Technical advantages
- more flexible coating films due to higher binder content
- lower density of a zinc flake based primer -> less weight
- very low degree of rust formation
- very good anti-corrosion properties (two-in-one concept)
- galvanic plus barrier effect
- less settlement and easier to apply and handle

Economic benefits
- lower metal content without loss in corrosion protection
- cost saving potential of up to 15%, calculated on coated area in comparison to a zinc rich primer system
- greater formulation flexibility due to lower zinc pigment content

Increased sustainability
- due to greatly reduced zinc metal content
- higher yield compared to traditional solutions
- thanks to the lower zinc metal content in paint film, less zinc is released to the soil e.g. during cleaning or welding processes or into the sea water from offshore constructions

Technical features
- Shape: flake
- aspect ratio: approx. 40/1
- thickness: 0.2 – 0.4 µm
- average particle size: 14 – 31 µm
- material density: 7.1 g/cm³
- oil absorption value: approx. 22 g / 100 g
- specific surface area: 1.2 m²/g

For more information and the DIN 12944 C5 and CX certificates, please have a look at our website:

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- three-layer commercial system (epoxy primer – ProFLAKE® Zn 2000, epoxy-micaceous iron oxide, PU top coat)
- 25 years of exposure (C3 environment)

Single layer coating for factory entrance gate (epoxy-mastix)
- ProFLAKE® Zn 2000, customer developed formula
- C5 coastal environment

ECKART proprietary developed and certified C5 paint system
- three-layer system (epoxy primer – ProFLAKE® Zn 2000, epoxy-micaceous iron oxide, PU top coat)

Singe layer lamp post polyester coating
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In the past, it was mandatory to use zinc rich primers (i.e., zinc dust) to fulfill the requirements of DIN / ISO 12944 C5 or Paint 20. A new release of the standards now also allows the use of zinc lamellar pigments (= zinc flake pigments).

Please find the technical details of our established ProFLAKE® zinc pigments in the table above. Our latest addition, ProFLAKE® Zn 3000 (D50 of approx. 31 µm) enriches the already existing ProFLAKE® portfolio of zinc flake pigments as the coarsest grade.

Thanks to optimized lean production processes, ProFLAKE® Zn 3000 offers an attractive price-performance ratio. The good orientation of the zinc flakes allows the formulation of percolation pathways. Additionally, the barrier effect of the flakes ensures perfect corrosion protection performance, providing a clear advantage over zinc dust.

ProFLAKE® Zn 3000 was especially developed for use in corrosion protective coatings with dry film thicknesses of >80 µm, typically used in heavy-duty corrosion protection in accordance to DIN / ISO 12944 C5 and AMPP (SSPC) Paint 29.

**Salt spray test result**

Single layer: zinc primer with zinc flakes (ProFLAKE® Zn 3000), average dry film thickness: 80 µm

DIN/ISO 12944 C5 corrosion protection classification with excellent test results, i.e. creepage at scribe 0.43 mm and 1.00 mm (allowed specification: 2 mm):
This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided – especially that contained in our safety data and technical information sheets – and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility.