Stelpant-PU-Zinc

Product description

Stelpaint-PU-Zinc is a single-pack moisture-curing zinc-dust paint on polyurethane basis. The product has a low solvent content, offers excellent long-term protection against corrosion, is surface tolerant and can be applied at high film thicknesses. Stelpant PU-Zinc can also be applied during normally unfavourable weather conditions, at temperatures ranging from -5°C to +50°C and a relative humidity level as high as 98%.

Recommended use

Stelpant-PU-Zinc is a primer for coating systems (with suitable top coats) for objects with an extended lifetime expectancy. Such as for example hydraulic steel structures, ships, offshore platforms and equipment, petrochemical and industrial plants, bridges, power plants, etc.. Stelpant-PU-Zinc can be applied over surfaces showing traces of rust or flash rust (see section surface preparation).

Technical data*

Product:	Stelpant-PU-Zinc grey
Colours:	grey, greenish grey, reddish grey
Gloss:	mat
Density:	approx. (3.09 +/- 0.1) g/cm^3
Volume solids:	approx. (71.0 +/- 2) %
Theoretical coverage:	approx. 8.9 m^2/l or 2.9 m^2/kg at 80 microns DFT
Recommended DFT:	50 - 100 microns
VOC:	approx. 260 g/l
Thinner:	Stelpant-PU-Thinner (also to be used for cleaning)
Temperature resistance:	max. 140°C (dry heat) or 60°C (wet heat)
Storage:	24 month in unopened original packing and stored at a temperature between 5°C and 30°C and protected from direct sunlight

*Data below refers to color grey. Values are calculated. Other colors may vary.

Drying

Drying stage acc. to DIN EN ISO 9117-5:2012-11	20°C	10°C
TG 1	0.5 h	1.5 h
TG 3	1.0 h	2.0 h
TG 6	2.5 h	4.0 h

The above mentioned drying times have been determined under laboratory conditions. They are related to the temperatures indicated, at a relative humidity of 60% and a dry film thickness of 75 microns. Lower temperatures will increase, higher temperatures will shorten the drying process. As this is a moisture-curing coating a humidity of 30% or higher will speed-up the drying process.

In practice drying starts at a relative humidity of 5%, at this level however drying times will increase considerably. Higher dry film thicknesses also increase the drying time of the coating. At a temperature around or below 0°C drying times will also increase considerably. Should you wish to force-cure our coatings at elevated temperatures, a sufficient level of humidity is necessary to enable curing.

Overcoating: min. possible after approx. 4h
Depending on the condition of the coating it may be necessary to prepare the surface accordingly. If the recoat interval exceeds 6 months please consult our technical department prior to application.

Application conditions

Substrate temperature: from -5°C to +50°C; substrates must be ice free
Relative humidity: between 30% and 98% relative humidity

Stelpant-products are highly tolerant towards humidity and can be used on slightly damp surfaces, however drops of water must not be visible on the surface. Surfaces have to be clean and free of salts or substances that could interfere with adhesion, e.g. oils and greases.

Material preparation

The material is delivered ready for use. It has to be stirred thoroughly with an electrical or air-driven agitator (at least 3 minutes).

Please check the condition of the cans before opening. They may be under pressure. In this case puncture the lid in order to reduce the pressure.

Open paint cans should be used within a few days. Protect the product from water (e.g. moisture in brushes or residual humidity in spraying devices).

Application methods

	Viscosity	Nozzle (recommended)	Pressure (recommended)
Airless spray:	undiluted	0.38 – 0.48 mm 0.015 – 0.019 inch	280 - 340 bar 4060 - 4930 psi
Brush / Roller:	undiluted		

High pressure air spray is also possible, depending on the viscosity it may be necessary to dilute the material before application.

Processing instructions

Only use Stelpant-PU-Thinner to dilute Stelpant products or for cleaning purposes. The use of other thinners is not allowed and can lead to negative properties of the dry film and/or thickening of the coating material.

Our one component moisture-curing coatings are specialty products and can only partially be compared with conventional systems. This is why some standard values, for example the tolerances regarding nominal dry film thickness as determined in DIN EN ISO 12944-5:2018-06, are not always applicable.

Surface preparation

Steel:

Abrasive blasting Sa 2 to Sa 2.5 acc. to DIN EN ISO 12944-4:2018-04, minimum roughness 30 µm.

Alternative methods if blasting is not possible:
Manual derusting: St2 to St3 acc. to DIN EN ISO 12944-4:2018-04
UHP water jetting: WJ-2L up to WJ-3L according to SSPC-SP12/NACE

Hot dip galvanized surfaces:

Optimum adhesion will be obtained when the hot dip galvanized surface is slightly swept. In some particular cases cleaning of the hot dip galvanized surface is sufficient. Always ask our technical department for advice.

Surfaces have to be clean and free of salts or substances that could interfere with adhesion, e.g. oils and greases.

Coating systems

Compared to other products Stelpant-PU-Zinc allows very high thicknesses. Dry film thicknesses of 100 microns (systems proved by BAW) and in other cases up to 150 microns per layer are possible.

For hydraulic steel structures – BAW certified; suitable also for Im1/Im2 and Im3 acc. to DIN EN ISO 12944-6:1998-07

1 x 50	microns*	STELPANT-PU-ZINC
2 x 200	microns	STELPANT-PU-COMBINATION 100
1 x 50	microns*	STELPANT-PU-ZINC
2 x 225	microns	STELPANT-PU-COMBINATION 300

*) Above mentioned dry film thickness does not include the correction factor for blasted surfaces acc. to ISO 19840.

For structural steel under C5 conditions acc. to DIN EN ISO 12944-6:2018-06

Durability: low

1 x 80	microns	STELPANT-PU-ZINC
1 x 80	microns	STELPANT-PU-MICA UV

Durability: high

1 x 80	microns	STELPANT-PU-ZINC
1 x 80	microns	STELPANT-PU-MICA HS
1 x 80	microns	STELPANT-PU-MICA UV

Durability: very high

1 x 60	microns	STELPANT-PU-ZINC
1 x 180	microns	STELPANT-PU-COMBINATION 500
1 x 80	microns	STELPANT-PU-MICA UV

For offshore structures acc. to DIN EN ISO 12944-9:2018-06

1 x 60	microns	STELPANT-PU-ZINC
1 x 140	microns	STELPANT-PU-COMBINATION 500
1 x 80	microns	STELPANT-PU-MICA UV

Suitable acc. to Network Rail Specification NR/L3/CIV/039 XM92/M24

1 x 100	microns	STELPANT-PU-ZINC
1 x 150	microns	STELPANT-PU-COMBINATION 500
1 x 75	microns	STELPANT-PU-COVER UV
1 x 80	microns	STELPANT-PU-ZINC
1 x 80	microns	STELPANT-PU-MICA HS
1 x 80	microns	STELPANT-PU-MICA UV

Above systems are to be considered as examples. Other systems are possible depending on the intended use and the required lifecycle.

Important notes

Issue date of Data Sheet:
12/2024. This data sheet supersedes those previously issued.

Safety precautions:
For professional use only.
For all relevant physical, safety, toxicological and environmental data please refer to the Material Safety Data Sheet, which can be provided on request.
Please observe all relevant regulations regarding storage, transport and application as well as the safety precautions printed on the labels on the can.

Disposal:
All empty cans should be disposed of in accordance with local legislation.

Disclaimer:
All products supplied are subject to our General Sales Conditions.
The information given in this Technical Data Sheet is non-binding and merely indicative, as the products can be used under conditions beyond our control. Above data regarding use, application and consumption are to be considered as guidelines only.
The corresponding practical data can only be defined per project.
The information in this Technical Data Sheet is based on laboratory testing and given to the best of our knowledge, according to the results of our research activities and our practical experience. However as the products can be used on different materials, substrates and under different working conditions, it is impossible for us to mention all possible details and therefore we cannot accept liability for any damage, unless willfully intended or caused by gross negligence from our side.
The suitability of this product is depending on the substrate, application conditions and intended use. The user must check whether the products are suitable for the intended use.