MATERIAL DATA SHEET

RHEINZINK-prePATINA graphite grey

- **NATURAL SURFACE**
- **PICKLING PROCESS CREATES THE LOOK OF PATINA**
- **SELF-HEALING OF SCRATCH MARKS**
- **100% RECYCLABLE**

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RHEINZINK®

BASIS-INFORMATION

The RHEINZINK-prePATINA product line is the only one on the market with a natural surface that is neither coated nor painted. The color effect is rather a result of the metal alloy itself. A higher copper content allows a darker surface to be created in the unique RHEINZINK-preweathering process. As the inventors, we called this production method "pre-weathering" and have coined the word to this day. In this way, the colour "graphite grey" can be produced ex works, which is caused by its higher copper content, while the later natural patina formation will have a slightly greenish colour change.

Specific weight 7.2 g/cm³
Building material class A1 (non-combustible)
Titanium zinc according to DIN EN 988
Meets ASTM B69-21 Architectural Rolled Zinc Type 2

DELIVERY FORMS

Standard widths	500-1000 mm
Standard thicknesses	0.70 – 0.80 mm
Protective film	On request
Coil inner diameter	508 mm at > 500 kg 400 mm at < 500 kg

IMPORTANT INSTALLATION INSTRUCTIONS

Bending radius	Minimum 1.75 mm from 1.00 mm on 1.75 x t
Soldering recommendation	Soldering flux "ZD-pro (company Felder), Overlap area 10 to 15 mm
Processing temperature	Warming up in temperatures below 10°
Protective film	Remove the film immediately after assembly

Note:
In the event of contamination due to external or environmental influences, please request the RHEINZINK cleaning recommendations. With these recommendations, RHEINZINK cannot guarantee that a new look will be created.

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GRAPHITE GREY

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ALLOY

Zinc	99.995% (Z1 according to DIN EN 1179)
Copper	0.80 – 1.00%
Titanium	0.06 – 0.12%
Aluminum	≤ 0.015%

CERTIFICATION

Quality management	Certified according to ISO 9001
Environmental management	Certified according to ISO 14001
Energy management	Certified according to ISO 50001
Environmental product declaration	Verified according to ISO 14025, TYPE III and EN 15804

External monitoring

MECHANICAL-TECHNOLOGICAL PROPERTIES

0.2% proof stress (Rp0.2)	≥ 115 N/ mm²
Tensile strength (Rm)	≥ 160N/ mm²
Breaking elongation (A50)	≥ 45%
Vickers hardness (HV3)	≥ 45
Folding test	No cracks on the bending edge
Bending up after folding test	No cracks after bending up
Fold tensile force test*	D ≥ 0.7
Erichsen cupping	≥ 8.0 mm
Longitudinal curvature	≤ 1.0 mm/ m
Flatness	≤ 1.5 mm wave height
Permanent elongation in creep (Rp0.1)	≤ 0.1%

*D = (tensile strength of folding sample) / (tensile strength of material)

PHYSICAL AND CHEMICAL PROPERTIES

Melting point / range	420 °C
Boiling point / range	906 °C
Recrystallization limit	> 300 °C
Density at 20 °C	7.2 g/ cm³
Elasticity modulus	≥ 80.000 N/ mm²
Expansion coefficient	
In the longitudinal direction	22·10-6 K^{-1}
In the rolling transverse	17·10-6 K^{-1}
Thermal conductivity	110 W/ m · K
Specific heat capacity	398 J/ kg/ K
Electrical conductivity	17 m/Ω · mm²
Viscosity	Dynamic at 500 °C: 0.0030 mPa·s