

# MATERIAL DATA SHEET

RHEINZINK-prePATINA  
blue grey



- **NATURAL SURFACE**
- **PICKLING PROCESS  
CREATES THE LOOK  
OF A REAL PATINA EX  
WORKS**
- **40 YEARS QUALITY  
GUARANTEE**
- **SELF-HEALING OF  
SCRATCH MARKS**
- **MAINTENANCE FREE**
- **100% RECYCLABILITY**

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## BASIC-INFORMATION

The RHEINZINK-prePATINA product line is the only one that, unlike all competitors on the market, has a natural surface that is neither coated nor painted. The "blue-grey" colour effect results from the metal alloy itself, due to our unique RHEINZINK-preweathering process. As the inventor, we called this special pickling process "pre-weathering" and coined this word. In this way, the colour "blue-grey" can be produced ex works, which is very close to the later natural patina formation on the building.

Specific weight 7.2 g/cm<sup>3</sup>

Building material class A1 (non-combustible)

Titanium zinc according to DIN EN 988

Certified according to QUALITY ZINC, TÜV Rheinland

## DELIVERY FORM

Standard widths	200 – 250 – 333 – 400 – 500 – 570 600 – 670 – 700 – 800 – 1000 mm
Standard thicknesses	0.70 – 0.80 – 1.00 mm 1.20 – 1.50 mm on request
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°C
Protective film	Remove the film mediatly 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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BLUE GREY

prePATINA blue grey

## ALLOY

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Zinc	99.995% (Z1 according to DIN EN 1179)
Copper	0.10 – 0.18%
Titanium	0.06 – 0.12%
Aluminum	≤ 0.015%

## CERTIFICATION

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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 4 times per year by TÜV Rheinland

## MECHANICAL-TECHNOLOGICAL PROPERTIES

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0.2% proof stress (Rp0.2)	≥ 110 N/ mm <sup>2</sup>
Tensile strength (Rm)	≥ 150 N/ mm <sup>2</sup>
Breaking elongation (A50)	≥ 40%
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

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Melting point / range	420 °C
Boiling point / range	906 °C
Recrystallization limit	> 300 °C
Density at 20 °C	7.2 g/ cm <sup>3</sup>
Elasticity modulus	≥ 80.000 N/ mm <sup>2</sup>
Expansion coefficient	
In the longitudinal direction	22·10 <sup>-6</sup> K <sup>-1</sup>
In the rolling transverse	17·10 <sup>-6</sup> K <sup>-1</sup>
Thermal conductivity	110 W/ m · K
Specific heat capacity	398 J/ kg/ K
Electrical conductivity	17 m/Ω · mm <sup>2</sup>
Viscosity	Dynamic at 500 °C: 0,0030 mPa·s