

Roofinox Tin matte 304

The matte tin-plated stainless steel



Product description

Roofinox Tin matte is an austenitic stainless steel (304) with an electroplated coating of tin on both sides. This tin coating is supplied in an unweathered state. The austenitic stainless steel owes its corrosion properties to the alloying elements chromium and nickel - properties that make this the most versatile stainless steel. The tin coating is in no way connected to the corrosion properties of the stainless steel.

Benefits

- When exposed to the weather, the tin coating develops its typical matte grey patina
- Excellent folding properties due to 20 % softer Roofinox stainless steel
- The tin coating makes Roofinox Tin matte easy to solder
- 100 % natural and 100 % recyclable
- Easy to work with, even at temperatures below 40°F

Instructions for use / recommendations

General Information:

- Roofinox Tin matte should be used in accordance with the latest technical standards, professional regulations and norms.
- No matter whether it is used for cold or warm roofs, Roofinox Tin matte is ideal for the roof itself and all associated flashings on the roof.
- When Roofinox Tin matte is used for standing seam roofs, all seams must be additionally sealed using seam sealant or similar waterproofing methods.
- Roofinox Tin matte is not recommended for vertical surfaces, wall-cladding and soffits because uniform patina and weathering cannot be guaranteed. Direct contact with aggregate concrete slabs, gravel, soil, humus etc. should be avoided. In both cases we recommend using Roofinox Classic or Plus .4mm'.
- **Transport and storage:** Roofinox Tin matte must be transported and stored in a dry, ventilated manner, otherwise the oxidation process will begin (see patination).
- **Processing:** Roofinox Tin matte is ideal for cold forming (folding, rounding, and roll-forming). For processing, suitable tools should be used (ideally made of stainless steel) and machines should be set for use with stainless steel. It should also be ensured that the sheets are handled with dry hands (dry gloves recommended), so no moisture gets onto the tin coating. Roofinox Tin matte can be processed at low temperatures.
- **Soldering:** Make sure that only orthophosphoric acid-based flux is used. It is also important to clean immediately with fresh water (or a cleaning agent recommended by the manufacturer) after soldering. The instructions on our information sheet on soldering should be followed.
- **Patination:** Patination is the process in which the metal reacts with the environmental influences. With Roofinox Tin matte it is the tin coating that reacts. One of the most important factors is the contact with water and moisture. The result is usually a uniform patina, but this cannot be guaranteed because the building specific environmental influences are not known. Roofinox Tin matte can therefore develop light yellow stains on delivery, which, however, will patinate further with regular water contact. The same counts for grey or black spots which are emerging before delivery or with the first patination. This is part of the point-shaped patination process of Roofinox Tin matte. When patination is complete, Roofinox Tin matte will have adjusted to a more uniform appearance in regards to the overall look, ensuring a homogenous, matte grey finish.
- **Cleaning:** The surface of Roofinox Tin matte should be cleaned with great care as mechanical cleaning can remove the tin coating, and the bare stainless steel might become visible. This bare, uncoated surface will not repatinate and remain exposed as well as shiny or silverish.

Specific Data Roofinox Tin matte 304

Material No.	ASTM TYPE 304 according to ASTM A240						
Code names	D (DIN/EN)	1.4301 / X 5 CrNi 18-10					
	USA (ASTM)	304					
	Japan	SUS 304					
	CIS	08 Ch 18 N 10					
Chemical composition (in % by weight) ¹⁾		C	Cr	Ni	Mn		
	min.	-	17.5	8.0	-		
	max.	0.07	19.5	10.5	2.0		
¹⁾ Special arrangements may be made within the analysis limits depending on the properties required.							
Mechanical properties (traverse samples) at room temp. to EN 10 088-2	Dimension range	0.2 % yield strength ksi		Ultimate tensile strength ksi	Elongation % in 2"	Hardness Rockwell B	
	Cold-rolled strip s ≤ 0.24"	min. 33		min. 78	min. 45	max. 92	
Physical properties	Density	Modulus of elasticity		Mean coefficient of thermal expansion			
	lb/in ³ (g/cm ³)	ksi 68° F	ksi 212° F	in/in/°Fv 68°F	in/in/°Fv 212°F		
	0.285 (7.9)	29 x 10 ⁶	29 x 10 ⁶	9.4 x 10 ⁻⁶	9.4 x 10 ⁻⁶		
	Thermal conductivity BTU/hr/ft/°F 68 °F	Specific heat capacity BTU/lb/°F 68°F		Electrical resistivity microhm-in 68°F	Magnetisability		
	8.7	0.12		27.6 x 10 ⁻⁶	present ²⁾		
²⁾ Roofinox tin matte 304 may be slightly magnetic in quenched condition. Magnetisability increases with increasing strain hardening.							
Surface finish	brushrolled and electroplated coating of tin						
Product forms	cold-rolled wide strip, slit strip, cut sheets. The marked side ist the A-side of the coil.						
Edge finish	cut edges						
Tolerances	Tolerances according to EN 10259; without or with lowest necessary edge waving, will not influence bending or profiling; low warping						
Dimensions		19.7"		24.6"		39.4"	
	Substrate alloy	304	316L	304	316L	304	316L
THICKNESS	0.0197"	●	●	●	●	●	●

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● available on stock ● delivery time of 8 weeks ● upon request (minimum quantity)

