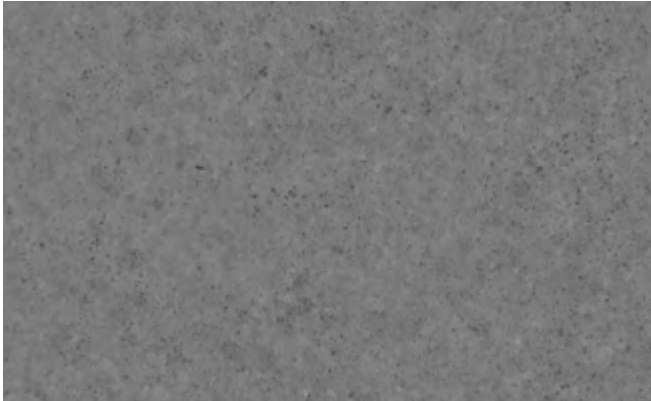


Technical Information

Roofinox tin-plated 439

The tin-plated stainless steel



Product description

Roofinox tin-plated is a stabilised ferritic stainless steel (439) with an electroplated coating of tin on both sides. This tin coating is supplied in an unweathered state. The ferritic stainless steel owes its corrosion properties to the alloying element chrome, and is magnetic. 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 matt grey patina
- Stainless chromium steel, used for the substrate, is the ideal (long-lasting) roofing material due to its corrosion properties
- Prices are more stable than with nickel-alloy stainless steels
- The tin coating makes Roofinox tin-plated easy to solder
- 100 % natural and 100 % recyclable
- Easy to work with, even at sub-zero temperatures

Instructions for use / recommendations

General Information:

- Roofinox tin-plated 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-plated is ideal for the roof itself and all associated flashings on the roof.
- When Roofinox tin-plated is used for standing seam roofs, all seams must be additionally sealed using seam sealant or similar waterproofing methods.
- Roofinox tin-plated 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-plated must be transported and stored in a dry, ventilated manner, otherwise the oxidation process will begin (see patination).
- **Processing:** Roofinox tin-plated 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-plated 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-plated 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-plated can therefore develop light yellow stains on delivery, which, however, will patinate further with regular water contact. The same counts for gray 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-plated. When patination is complete, Roofinox tin-plated will have adjusted to a more uniform appearance in regards to the overall look, ensuring a homogenous, matt grey finish.
- **Cleaning:** The surface of Roofinox tin-plated 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-plated 439

Material no.	ASTM TYPE 439 according to ASTM A240M										
Code names	D (DIN/EN)		1.4510 / X 3 CrTi17 / X 6 CrTi17								
	USA (ASTM)		439 / 430								
Chemical compositions (in % by weight)			Carbon			Chromium			Titanium		
	min.		-			16.0			4 x (C+N) + 0.15		
	max.		0.05			18.00			0.80		
Mechanical properties (traverse samples) at room temp. to EN 10 088-2	Dimensions Range		Rp (0,2 % yield strength) N/mm ²			Rm (tensile strength) N/mm ²			A80 (elongation) %		
	Cold-rolled strip s ≤ 6 mm		≥ 240			420 - 600			≥ 23		
Minimum properties at elevated temperatures	Temperature °C		100	150	200	250	300	350			
	Rp _{0,2} (0,2 %-yield strength) N/mm ²		195	190	185	175	165	155			
Physical properties	Density kg/dm ³	Modulus of elasticity in kN/mm ² at					Thermal expansion in 10 ⁻⁶ · K ⁻¹ between 20°C and				
		20°C	100°C	200°C	300°C	400°C	100°C	200°C	300°C	400°C	500°C
	7,7	220	218	212	205	197	10,0	10,5	10,5	10,5	11,0
	Thermal conductivity at 20°C W/m · K		Specific heat capacity at 20°C J/kg · K			Electrical Resistivity at 20°C Ω · mm ² /m			Magnetisability		
25		460			0,60			yes			
Surface finish	electroplated coating of tin										
Product forms	cold-rolled wide strip, slit strip, cut sheets. The marked side is 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			500 mm		625 mm		1000 mm				
	Substrate alloy		1.4510	1.4404	1.4510	1.4404	1.4510	1.4404			
THICKNESS	0,5 mm	●	●	●	●	●	●				

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



ROOFINOX[®]

Roofinox Aktiengesellschaft, Landstraße 39, FL-9490 Vaduz,
T +432 233 50 75, F +432 233 50 76, info@roofinox.com, www.roofinox.com