

Roofinox Classic 316L

The brush-rolled stainless steel



Product description

Roofinox Classic is specially designed for use on roofs and façades. The product was developed with a focus on the two key characteristics required for use in the building envelope. Firstly, the mechanical properties of Roofinox Classic were improved to ensure excellent processing; in particular roll-forming and bending. Secondly, the visual appearance was improved using a brush-rolling technology. The result is a decorative textured surface that ensures an extremely low-gloss, matte effect.

Benefits

- Unique surface for a look that is four times more matte
- Excellent folding properties due to 20 % softer Roofinox stainless steel
- 88% reduced gloss due to the surface structure

Instructions for use / recommendations

- **General information:** Roofinox Classic should be used in accordance with the latest technical standards, professional regulations and norms. Roofinox Classic is the metal sheeting for the building envelope. No matter whether it is used for cold or warm roofs, for façades, flashing or rainware, it is ideal for almost all requirements.
- **Areas of application:** Roofinox Classic 316L is ideal for use in rural, urban, and industrial environments. This applies also to marine environments, increased contamination with de-icing salt and for base or bottom of wall flashings. Depending on the area of use, a higher alloyed stainless steel may be necessary. Please ask us if you are uncertain, or if customers have specific requirements.
- **Transport and storage:** Roofinox Classic must be transported and stored under dry, ventilated conditions.
- **Processing:** Roofinox Classic 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. Roofinox Classic can be processed at low temperatures.

Technical description

Roofinox Classic 316L is an austenitic stainless steel (316L) with a unique brush-rolling texture on both sides. The austenitic stainless steel owes its corrosion properties to the alloying elements chromium, nickel and molybdenum that make this the most versatile stainless steel. The brush rolling is applied during the rolling process so that surface and stainless steel become one and do not change over time (no patination).

- Increased corrosion resistance achieved by modified production sequence
- Very easy to solder due to the surface structure
- Easy to work with, even at sub-zero temperatures
- Extremely easy to clean

- **Soldering:** Make sure that only orthophosphoric acid-based flux is used. It is also important to clean quickly with fresh water (or a cleaning agent recommended by the manufacturer) after soldering. The instructions on our information sheet on soldering should be followed.
- **Passive layer:** When the alloying element chrome comes in contact with air or precipitation, Roofinox stainless steel develops a passive layer which ensures that Roofinox does not rust. Should the process be disturbed, this is not a problem, as long as it is detected at an early stage. Simply remove the entire corrosive medium using cleaning agents recommended by us and rinse with fresh water. The passive layer will be restored within hours and the Roofinox stainless steel will be 100% intact with all its advantages.
- **Corrosion:** Technically speaking, corrosion is the reaction of a substance with its environment that causes a measurable change in the material. With Roofinox stainless steel, there are very few environmental influences that can lead to such a reaction. In normal use, there are 2 factors that can cause Roofinox stainless steel to rust: →

1. Extraneous rust: If iron particles come into contact with Roofinox stainless steel - for example through abrasion by a non-cleaned tool, rust film caused by abrasive cutting, water dripping from steel components etc. - and react with water, it will rust, but can nevertheless be easily restored (see "passive layer").

2. Chlorides, salts: If chlorides or de-icing salt used on the roads come into contact with Roofinox stainless steel, it will also rust. If heavy contact with chlorides or de-icing salt is to be expected, then make sure you use Roofinox with the alloy 316L or higher.

In both cases, the same applies if detected at an early stage, as described in "passive layer": clean thoroughly, rinse with fresh water and Roofinox will be 100 % intact.

• **Cleaning:** Cleaning Roofinox Classic is very easy. Basically it is a question of what you want to clean. Usually, the cleaning effect of rain will suffice. In more demanding cases you can spray Roofinox with water. If necessary, mild soapy water can be used. It is important not to use chloride-containing or abrasive cleaning agents. For special applications or specific requirements please contact our technical support so we can recommend the right cleaning agent. Steel wool, scouring pads etc. are not to be used.

• **Environmental sustainability:** Long-term studies have shown that Roofinox stainless steel has no measurable metal removal or run-off. Roofinox Classic is thus ideal for domestic water use. There is also no adverse effect on the environment or damage to microorganisms in the soil to be expected, which means that Roofinox Classic is ideally suited for use in drinking water protection areas and open waters.

Specific Data Roofinox Classic 316L

Material no.	ASTM TYPE 316L according to ASTM A240M										
Code names	D (DIN/EN)	1.4404 / X 2 CrNiMo 17-12-2									
	USA (ASCM)	316L									
Chemical compositions (in % by weight)		C	Cr	Mo	Ni	Mn					
	min.	-	16.5	2.0	10.0	-					
	max.	0.03	18.5	2.5	13.0	2.0					
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 strips ≤ 6 mm	≥ 240			530-680			≥ 40			
Minimum properties at elevated temperatures	Temperature °C	100	150	200	250	300	350				
	Rp _{0,2} (0,2 %-yield strength) N/mm ²	166	152	137	127	118	113				
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
	8,0	200	194	186	179	172	16	16,5	17	17,5	18
	Thermal conductivity at 20°C W/m · K	Specific heat at 20°C J/kg · K			Electrical Resistivity at 20°C Ω · mm ² /m			Magnetisability			
15	500			0,75			not present ²⁾				
²⁾ Roofinox Classic 316L may be slightly magnetic in quenched condition. Magnetisability increases with increasing strain hardening.											
Surface finish	Specific brushrolled surface, design according to sample on display										
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										

Delivery options	Dimensions Substrate alloy	0,4 mm		0,5 mm		0,6 mm		0,8 mm	
		304	316L	304	316L	304	316L	304	316L
500 mm		•	•	•	•				
600 mm		•							
625 mm			•	•	•	•	•	•	
800 mm				•					
1.000 mm		•	•	•	•				
1.200 mm		•							
1.250 mm			•	•	•	•	•	•	•

• available on stock

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