

Roofinox Pearl 304

The bead-blasted stainless steel



Product description

Roofinox Pearl was developed as an alternative to Roofinox Classic for the use on roof and facade. The mechanical advantages for profiling and folding are the same as for Roofinox Classic. In a special mechanical blasting process with coordinated blasting material, this special surface optic was created. Roofinox Pearl ensures the lowest gloss level and a super matte appearance.

Benefits

- Unique surface provides 5 times more matte optics.
- Bead-blasted with specially developed blasting materials.
- Higher corrosion resistance due to special production process.

Technical description

Roofinox Pearl 304 is an austenitic stainless steel with a unique bead-blasted texture on both sides. 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 bead-blasting is applied after the rolling process so that surface and stainless steel become one and do not change over time (no patination).

- More malleable than any comparable surface.
- Best solderability due to special surface structure.

Instructions for use / recommendations

- **General information:** Roofinox Pearl should be used in accordance with the latest technical standards, professional regulations and norms. Roofinox Pearl 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 Pearl 304 is ideal for normal rural, urban and industrial environments. For use close to the sea and in the case of more demanding requirements, e.g. for industrial environments, alloy 316L or higher should be used. 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 Pearl must be transported and stored under dry, ventilated conditions.
- **Processing:** Roofinox Pearl 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 Pearl can be processed at low temperatures.
- **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 Pearl 304

Material No.	ASTM TYPE 304 according to ASTM A240M										
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 (transverse samples) at room temp. to EN 10 088-2	Dimension range	Rp _{0.2} (0,2 % yield strength) N/mm ²			Rm (tensile strength) N/mm ²			A80 (elongation) %			
	Cold-rolled strip s ≤ 6	≥ 230			540 - 750			≥ 45			
Minimum properties at elevated temperatures	Temperature °C	100	150	200	250	300	350				
	Rp _{0.2} (0,2%-yield strength) N/mm ²	157	142	127	118	110	104				
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
	7.9	200	194	186	179	172	16.0	16.5	17.0	17.5	18.0
	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			
15	500			0.73			present ²⁾				
²) Roofinox Pearl 304 may be slightly magnetic in quenched condition. Magnetisability increases with increasing strain hardening.											
Surface finishing	bead-blasted surface, special design according to deposited pattern										
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	0,4 mm		0,5 mm		0,6 mm		0,8 mm	
	Substrate alloy	304	316L	304	316L	304	316L	304	316L
400 mm				•					
500 mm				•					
625 mm				•					
750 mm				•					
1.000 mm				•					
1.250 mm				•					

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