

UGINOX® Patina K41



Description

- > UGINOX Patina K41 is a bistabilized ferritic stainless steel with an electro-tinned coating on both sides.
- > This ferritic stainless steel is K41 and belongs to the KARA range: it contains 18% chromium and is stabilized with titanium and niobium.
- > UGINOX Patina K41 weathers over time, acquiring a matt finish through natural patination giving a traditional rustic final appearance.
- > UGINOX Patina K41 is suitable in standard environmental conditions.

Elements	%C	%Si	%Mn	%Cr	%Ti+Nb
K41	0.015	0.60	0.30	17.80	0.65

Typical values

European designation	American designation
X2CrTiNb18 1.4509 ⁽¹⁾	Type 441 ⁽²⁾

(1) According to NF EN 10088-2

(2) According to ASTM A 240



Think Stabilized Stainless Steel !

- > **Chromium** is a key chemical compound, which basically gives stainless steel its corrosion resistance property. Indeed a chromium oxide is created on the material surface in contact with air and water. This layer repairs itself and therefore protects the surface.
- > Both **stabilisers** (Titanium and Niobium) reinforce the corrosion resistance.

Key strengths

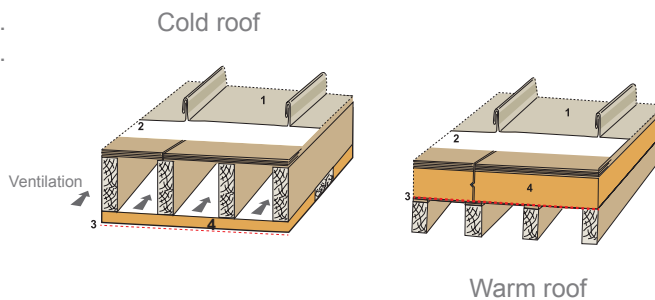
- > Workable at low temperatures, including in mountainous regions.
- > Nickel-free grade offering price stability over time.
- > Ease of soldering.
- > Low thermal expansion coefficient: enables the use of long strips in single sections.
- > A sustainable behaviour in rural, urban and normal industrial atmospheres.
- > 100 % recyclable.

	Average values	FTE	Zn ⁽¹⁾	Cu ⁽¹⁾	Al ⁽¹⁾	Steel ⁽¹⁾
Physical properties	Melting point °C	1505	418	1083	660	1600
	Density	7.70	7.10	8.90	2.70	7.70
	Expansion coefficient mm/m with ΔT = 100°C	1,10	2.20	1.68	2.35	1,20
	Thermal conductivity W/m.K at 20°C	25	110	328	201	30
Tensile properties (transverse)	Proof Stress 0.2 MPa	310	110/150	190 1/4 hard	45	250
	Tensile Strength MPa	480	150/190	260 1/4 hard	120	330

(1) Reference of a type of zinc, copper, aluminium or steel traditionally employed in roofing.

Applications

- > Standing seam roofing.
- > Self supporting roofing.
- > Cleated seam roofing.
- > Suitable for cold or warm roofs.
- > Gutters.
- > Roofing accessories.



- 1 - Stainless steel roof covering
- 2 - Underlay
- 3 - Vapour control layer
- 4 - Insulation (glass wool...)



Alte Kohlenhandlung, Langenthal – Switzerland.
Architects: Blum & Rossenbacher
Executed using grade UGINOX Patina K41

Atmospheric exposure

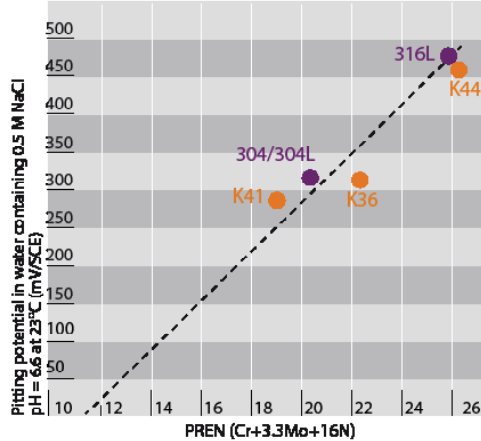
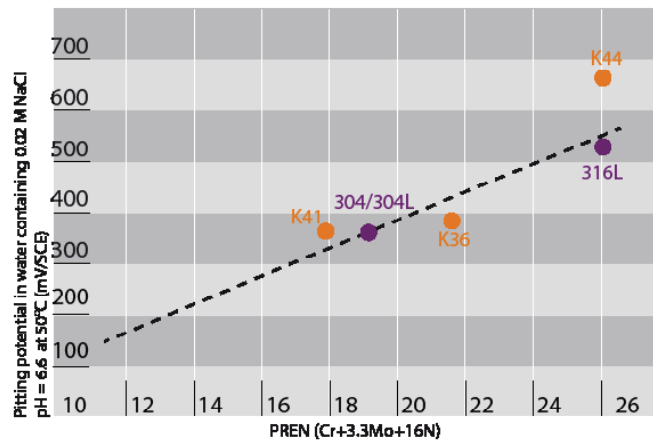
> Atmospheric exposure behaviour

UGINOX Patina K41 is adapted for rural atmospheres (without specific pollution), for urban and normal industrial atmospheres: in such environments UGINOX Patina K41 offers a natural and sustainable corrosion resistance for roofs installed according to current good practices (e.g. NF DTU 40.44 French Code).

UGINOX Patina K41 is not recommended in severe industrial environments without prior consultation and is not for use on seafront as well as in vertical and sheltered areas.

> Behaviour to localised corrosion

Along with the tinned coating, the corrosion resistance of the underlying base material is of primary importance.



Commercial designation	EN standard
K36	1.4526
K41	1.4509
K44	1.4521
304/304L	1.4301 1.4307
316L	1.4404

Our dimensional range

- > Thickness range: 0.4 mm - 0.5 mm
- > Maximum width: 1160 mm
- > Available in coil, slit coil and sheet

		Widths (mm)					
		500	580	670	800	1000	1160
Thickness (mm)	0.4	65	56	48	40	32	28
	0.5	51	44	38	32	26	22

Lengths in linear metres in relation to gauge, calculated on the basis of 100 kg coils, rounded to the nearest linear metre.

Our recommendations

- > Use UGINOX Patina K41 for standing seam, self supporting and cleated seam roofing, as well as for accessories.
- > Avoid the use of UGINOX Patina K41 in vertical and sheltered areas or on the seafront.
- > Use dedicated stainless steel tools to avoid any risk of cross contamination.
- > Do not work with other metals adjacent to UGINOX Patina K41, which could cause contamination as a result of projections.
- > Avoid the use of metallic pads or wire wool including powder based abrasives.
- > Before soldering use an orthophosphoric based acid for pickling. Use of chlorine based pickling agents is prohibited. We recommend immediate rinsing with water after soldering.