

UGINOX® Patina K44

Description

- > UGINOX Patina K44 is a bistabilized ferritic stainless steel with an electro-tinned coating on both sides.
- > This ferritic stainless steel is K44 and belongs to the KARA range: it contains 18% chromium and molybdenum and is stabilized with titanium and niobium.
- > UGINOX Patina K44 weathers over time, acquiring a matt finish through natural patination giving a traditional rustic final appearance.
- > UGINOX Patina K44 has the benefit of a high corrosion resistance, suitable for use in aggressive atmospheres.

Elements	%C	%Si	%Mn	%Cr	%Mo	%Ti+Nb
K44	0.015	0.50	0.30	17.70	1.85	0.45

Typical values

European designation	American designation
X2CrMoTi18-2 1.4521 ⁽¹⁾	Type 444 ⁽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.
- > **Molybdenum** reinforces its corrosion resistance.

Key strengths

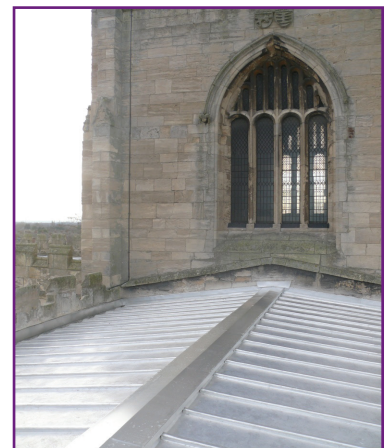
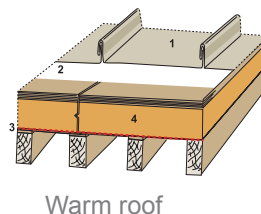
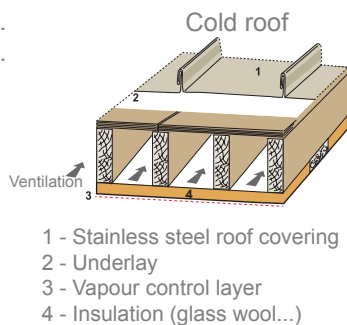
- > Workable at low temperatures, including in mountainous regions.
- > Ease of soldering.
- > Low thermal expansion coefficient: enables the use of long sheet lengths in single sections.
- > High corrosion resistance, suitable for use in aggressive atmospheres.
- > Nickel-free grade offering price stability over time.
- > 100% recyclable.

	Average values	K44	Zn ⁽¹⁾	Cu ⁽¹⁾	Al ⁽¹⁾	Steel ⁽¹⁾
Physical properties	Melting point °C	1495	418	1083	660	1600
	Density	7.70	7.10	8.90	2.70	7,70
	Expansion coefficient mm/m with ΔT = 100°C	1.08	2.20	1.68	2.35	1,20
	Thermal conductivity W/m.K at 20°C	23	110	328	201	30
Tensile properties (transverse)	Proof Stress 0.2 MPa	380	110/150	190 1/4 hard	45	250
	Tensile Strength MPa	520	150/190	260 1/4 hard	120	330

(1) reference of a type of zinc, copper, aluminium or steel traditionally used for roofing

Applications

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



KARA
key for value

St-Lawrence, Church Doncaster, United Kingdom
Architect: Wiles and Maguire Ltd.
Executed using grade K44,
UGINOX Patina surface finish

Atmospheric exposure

> Atmospheric exposure behaviour

UGINOX Patina K44 is naturally resistant to corrosion and suitable for any environment.

✓ Roofing:

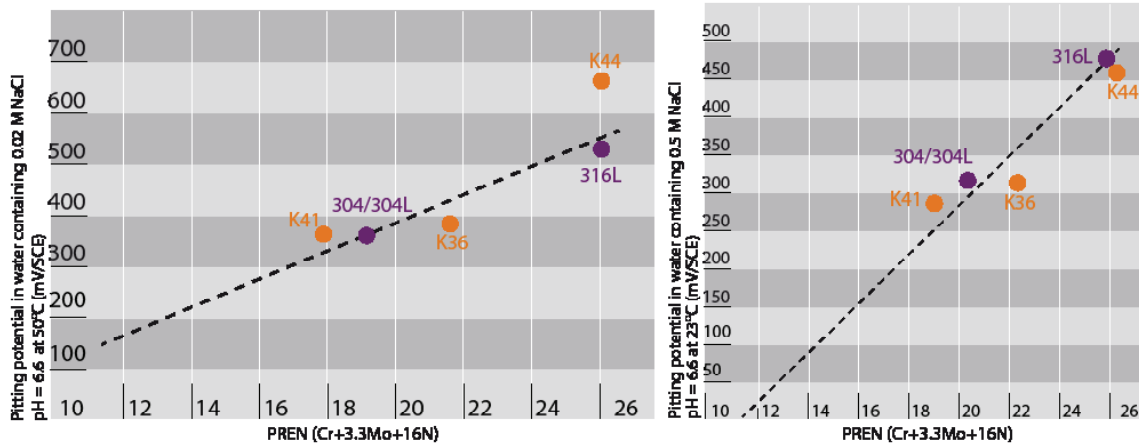
UGINOX Patina K44 will adapt to any location for roofs including coastal / marine areas and installed according to current good practices (e.g. NF DTU 40.44 French Code). When exposed to the atmosphere the Tin coating will develop a natural patina. In roofing applications the change is noticeable after a few weeks and especially following rainfall the process will be substantially complete after a few months.

✓ Vertical cladding:

In vertical cladding or sheltered soffits the surface receives less moisture and the patina will take longer to develop. In such areas, where cleaning operations may also be required we recommend an alternative Aperam facade surface such as UGINOX Top.

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

Thick. 0.50 mm	Widths (mm)					
	500	580	670	800	1000	1160
	51	44	38	32	26	22

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

Our recommendations

- > Use UGINOX Patina K44 for standing seam, self supporting and cleated seam roofing, as well as for accessories.
- > Avoid the use of UGINOX Patina K44 in vertical and sheltered areas.
- > Use dedicated tools to avoid any risk of cross contamination.
- > Do not work with other metals adjacent to UGINOX Patina K44, 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.