

SINOXX 4104 Steel

Designation by Standards

Brand Name	Ravne	Mat. No.	DIN	EN	AISI/SAE
SINOXX 4104	РК339	1.4104	-	X14CrMoS17	430F

Chemical Composition (in weight %)

С	Si	Mn	Cr	Мо	Ni	V	W	Others
max.0.14	max.1.00	max. 1.50	16.50	0.40	-	-	-	-

Description

This is a free machining version of 430. A basic ferritic, non-heat treatable, 17% chromium stainless with moderate strength and corrosion resistance.

Applications

Successfully used in a variety of aircraft parts including fasteners, gears, shafts and pinions. PK340 is preferably used for the metal-cutting manufacture of relatively small parts, such as bolts, nuts, shafts, amd other machine parts, which is not subject to any particular corrosion stress, e.g. in water meters, gas meters and switchgear.

Physical properties (average values) at ambient temperature

Modulus of elasticity [10³ x N/mm²]: 215, 205 (200^oC), 190 (400^oC)

Density [g/cm³]: 7.7 Thermal conductivity [W/m.K]: 25.0 Electric resistivity [Ohm mm²/m]: 0.70 Specific heat capacity[J/g.K]: 0.46

Magnetisable: Yes

Coefficient of Linear Thermal Expansion 10⁻⁶ °C⁻¹

20-100 ^o C	20-200°C	20-400 ^o C
10.0	10.5	10.5

Continuous Cooling Transformation (CCT) Diagram





Soft Annealing

Heat to 750-850°C, cool slowly in furnace. Structure is ferrite with spherical carbides.

Quenching

Harden from a temperature of 950-1070°C followed by oil or air (sufficiently fast) quenching.

Tempering

Tempering temperature: 550-650°C, structure is transformation structure with ferrite.

Mechanical properties at at ambient temperature

Condition: Annealed, diamter d<=60 mm Tensile strength: max. 700 N/mm² Hardness: max. 220 HB

Condition: Quenched and tempered at 650°C, diameter 60<=d<=260 mm 0.2% proof stress: 500 N/mm² Tensile strength: 650-850 N/mm² Elongation: 10% (Longit.)

Forging

Hot forming temperature: 1100-800°C, slow cooling in air.

Machinability

Excellent chip breakage due to the addition of sulfur. Good speeds and feeds are possible with this alloy.

Welding

Not recommended for welding due to its high sulfur content. If welding is necessary, utilize low heat settings and filler metal of AWS E/ER430 for best results

Corrosion Resistance

Resistant to gas and oil, atmosphere, fresh water, nitric acid and many organic compounds.

Cold working

This alloy will only withstand moderate cold forming.

Forms manufactured: Please see the Dimensional Sales Program.

Disclaimer

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