

# Dura 4110

## General characteristics

High hardness martensitic grade (comp. 1.4034), but with improved corrosion and wear resistance. Applied for e.g. knife blades, scissors, surgical cutting tools, measuring tools, pump construction, valves.

## Typical applications

- Knife blades
- Scissors
- Surgical cutting tools
- Measuring tools
- Pump construction
- Valves

## Products & dimensions

### Cold rolled products, available dimensions (mm)

Surface finish		Coil / Strip		Plate / Sheet	
		Thickness	Width	Thickness	Width
2B	Cold rolled, heat treated, pickled, skin passed	0.50-3.50	30-1250	0.50-3.50	350-1250
2BB	Bright-pickled	0.50-3.50	30-1350	0.50-3.50	600-1350
2C	Cold rolled, heat treated	0.60-4.00	30-1350		
2D	Cold rolled, heat treated, pickled	0.50-4.00	30-1350	0.50-4.00	600-1300
2E	Cold rolled, heat treated, mech. desc. pickled	0.50-4.00	30-1350	0.50-4.00	600-1300
2G	Ground	0.50-3.00	30-1350	0.50-3.00	600-1300
2H	Work hardened	0.50-3.00	30-1350	0.50-3.00	600-1350
2J	Brushed or dull polished	0.50-3.00	30-1350	0.50-3.00	600-1300
2R	Cold rolled, bright annealed	0.05-1.50	3-649		

### Continuous hot rolled products, available dimensions (mm)

Surface finish		Coil / Strip		Plate / Sheet	
		Thickness	Width	Thickness	Width
1C	Hot rolled, heat treated, not descaled	5.00-8.00	50-1350		
1D	Hot rolled, heat treated, pickled	5.00-5.50	30-1250	5.00-5.50	350-1250

1U	Black hot rolled	5.00-8.00	50-1350
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## Chemical composition

The chemical composition is given as % by weight.

	C	Mn	Cr	Ni	Mo	N	Other
<b>Typical</b>	<b>0.50</b>		<b>14.8</b>		<b>0.6</b>		
EN 10088-2	0.48-0.60	≤1.00	13.0-15.0		0.50-0.80		

## Corrosion resistance

Pitting corrosion resistance		Crevice corrosion resistance
PRE	CPT	CCT
17	<10	<0

PRE Pitting Resistant Equivalent calculated using the formula:  $PRE = \%Cr + 3.3 \times \%Mo + 16 \times \%N$

CPT Corrosion Pitting Temperature as measured in the Avesta Cell (ASTM G 150), in a 1M NaCl solution (35,000 ppm or mg/l chloride ions).

CCT Critical Crevice Corrosion Temperature is the critical crevice corrosion temperature which is obtained by laboratory tests according to ASTM G 48 Method F

## Mechanical properties

Cold rolled coil and sheet	R <sub>p0.2</sub> MPa	R <sub>p1.0</sub> MPa	R <sub>m</sub> MPa	Elongation <sup>1)</sup> %	Impact strength J	Rockwell	HB	HV
<b>Typical (thickness 1 mm)</b>	<b>410</b>	<b>460</b>	<b>690</b>					
EN 10088-2			≤ 850	≥ 12				

Hot rolled coil and sheet	R <sub>p0.2</sub> MPa	R <sub>p1.0</sub> MPa	R <sub>m</sub> MPa	Elongation <sup>1)</sup> %	Impact strength J	Rockwell	HB	HV
<b>Typical (thickness 4 mm)</b>	<b>425</b>	<b>485</b>	<b>670</b>	<b>22</b>			<b>91</b>	
EN 10088-2			≤ 850	≥ 12				

<sup>1)</sup>Elongation according to EN standard:

A<sub>80</sub> for thickness below 3 mm.

A for thickness = 3 mm.

Elongation according to ASTM standard A<sub>2</sub><sup>o</sup> or A<sub>50</sub>.

## Physical properties

Density	Modulus of elasticity	Thermal exp. at 100 °C	Thermal conductivity	Thermal capacity	Electrical resistance	Magnetizable
kg/dm <sup>3</sup>	GPa	10 <sup>-6</sup> /°C	W/m°C	J/kg°C	μΩm	
7.7	215	10,5	30	460	0.62	Yes

## Fabrication

# Standards & approvals

Standard	Designation
EN 10088-2	1.4110

## Contacts & Enquiries

Contact your nearest sales office

[www.outokumpu.com/contacts](http://www.outokumpu.com/contacts)

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