

# Forta 430/4016

EN 1.4016, ASTM TYPE 430 / UNS S43000

## General characteristics

Forta 430/4016 is a classic 16% chromium ferritic stainless steel for mildly corrosive environments. Not recommended for welding due to its decreased intergranular corrosion resistance

## Typical applications

- Tanks
- Cutlery
- Household appliances

## Products & dimensions

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

Surface finish		Coil / Strip		Plate / Sheet	
		Thickness	Width	Thickness	Width
2A	2A	0.50-1.00	35-1280	0.50-1.00	35-1280
2B	Cold rolled, heat treated, pickled, skin passed	0.30-5.00	12-1550	0.30-5.00	18-1550
2BB	Bright-pickled	0.25-3.50	30-1524	0.25-3.50	35-1300
2C	Cold rolled, heat treated	0.80-5.00	30-1530		
2E	Cold rolled, heat treated, mech. desc. pickled	0.33-5.00	12-1530	0.33-5.00	18-1530
2F	Cold rolled, heat treated, skin passed	0.33-3.58	12-1524	0.33-3.58	18-1524
2G	Ground	0.40-3.58	12-1530	0.40-3.58	18-1530
2H	Work hardened	0.05-5.00	3-1530	0.30-5.00	18-1530
2J	Brushed or dull polished	0.40-3.00	30-1530	0.40-3.00	35-1530
2K	Satin finish	0.53-3.58	12-1530	0.53-3.58	18-1530
2M	Patterned	0.40-3.50	30-1524	0.40-3.50	600-1500
2R	Cold rolled, bright annealed	0.05-3.00	3-1500	0.20-3.00	18-1500

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

Surface finish		Coil / Strip		Plate / Sheet	
		Thickness	Width	Thickness	Width
1C	Hot rolled, heat treated, not descaled	2.00-8.00	50-1530		
1D	Hot rolled, heat treated, pickled	2.50-8.00	50-1524	2.50-8.00	350-1524

1E	Hot rolled, heat treated, mech. desc.	1.50-3.00	50-1530	1.50-3.00	50-1530
1G	Ground	2.00-3.00	750-1455	2.00-3.00	750-1455
1H	Hot rolled, temper rolled	2.00-2.50	35-1550		
1M	Patterned	2.00-3.00	750-1455	2.00-3.00	750-1455
1U	Black hot rolled	2.00-8.00	50-1550		

## Chemical composition

The typical chemical composition for this grade is given in the table below, together with composition limits given for the product according to different standards. The required standard will be fully met as specified on the order.

The chemical composition is given as % by mass.

	C	Mn	Cr	Ni	Mo	N	Other
<b>Typical</b>	<b>0.05</b>		<b>16.2</b>				
ASME II A SA-240	≤0.12	≤1.00	16.0-18.0	≤0.75			
ASTM A240	≤0.12	≤1.00	16.0-18.0	≤0.75			
EN 10088-2	≤0.08	≤1.0	16.0-18.0				
EN 10088-3	≤0.08	≤1.00	16.0-18.0				
EN 10088-4	≤0.08	≤1.0	16.0-18.0				
IS 6911	≤0.12	≤1.00	16.0-18.0	≤0.75	≤0.30		

## Corrosion resistance

Pitting corrosion resistance		Crevice corrosion resistance
PRE	CPT	CCT
16	<10	<0

Pitting Resistance Equivalent (PRE) is calculated using the following formula:  $PRE = \%Cr + 3.3 \times \%Mo + 16 \times \%N$

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

Critical Crevice Corrosion Temperature (CCT) 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>365</b>	<b>390</b>	<b>520</b>	<b>50</b>				
ASME II A SA-240	≥ 205		≥ 450				≤ 183	
ASTM A240	≥ 205		≥ 450			≤ 89HRB	≤ 183	
EN 10088-2	≥ 260		430 - 600	≥ 20				
EN 10088-4								
IS 6911	≥ 205		≥ 450			≤ 89HRB	≤ 183	

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>370</b>	<b>395</b>	<b>515</b>	<b>21</b>			<b>80</b>	
ASME II A SA-240	≥ 205		≥ 450				≤ 183	
ASTM A240	≥ 205		≥ 450				≤ 183	

EN 10088-2	≥ 240		430 - 600	≥ 18				
EN 10088-4								
IS 6911	≥ 205		≥ 450			≤ 89HRB	≤ 183	

Hot rolled quarto plate	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 15 mm)</b>	<b>365</b>		<b>505</b>	<b>20</b>				
ASME II A SA-240	≥ 205		≥ 450				≤ 183	
ASTM A240	≥ 205		≥ 450				≤ 183	
EN 10088-2	≥ 260		430 - 630	≥ 20				
EN 10088-4	≥ 260		430 - 630					
IS 6911	≥ 205		≥ 450			≤ 89HRB	≤ 183	

Wire rod	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</b>	<b>280</b>		<b>450</b>	<b>25</b>				

<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> or A<sub>50</sub>.

## Physical properties

Data according to EN 10088

Density kg/dm <sup>3</sup>	Modulus of elasticity GPa	Thermal exp. at 100 °C 10 <sup>-6</sup> /°C	Thermal conductivity W/m°C	Thermal capacity J/kg°C	Electrical resistance μΩm	Magnetizable
7.7	220	10	25	460	0.60	Yes

## Fabrication

## Standards & approvals

The most commonly used international product standards are given in the table below.

Standard	Designation
ASME SA-240M Code Sect. II. Part A	TYPE 430 / UNS S43000
ASTM A240/A240M	TYPE 430 / UNS S43000
EN 10088-2	1.4016
EN 10088-3	1.4016
EN 10088-4	1.4016
IS 6911, AMENDMENT NO. 2	ISS 430

## Contacts & Enquiries

Contact your nearest sales office

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

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