

Quality	430FMo	Ferritic
Number	(1.4105)	Stainless Steel

Chemical composition

C%	Si%	Mn%	P%	S%	Cr%	Mo%	Ni%
max			max				max
0,08	0,30-0,80	0,40-1,25	0,040	0,20-0,30	16,0-18,0	0,80-1,10	1,00
+ 0.01	+ 0.05	+ 0.03	+ 0.005	+ 0.02	+ 0.2	+ 0.05	+ 0.03

Product deviations are allowed

Temperature °C

Melting range	Pre-heating	Hot-forming	Soft annealing +A	MMA welding – AWS electrodes <i>pre-heating</i> <i>post welding</i>
1500-1480	870-820 pause	1140-900	800-780 air (HB max 190)	difficult; address qualified electrodes producers
Natural state +U	Recrystallization +RA	Quenching +Q	Annealing for magnetic properties ^{a)}	<i>joint with steel</i>
	820-760 slow cooling (HB max 195)	930 calm or forced air	845-800 cooling 50 °C/h to 430, then air	carbon CrMo alloyed stainless E430 E430 E309
				<i>cosmetic welding</i> E309

Curie temperature 671 °C

Chemical treatment - *Pickling* (6 - 25% HNO₃) + (0.5 - 8% HF) hot or cold. *Passivation* 20 - 25% HNO₃ hot

Mechanical properties

Hot-formed

size		Testing at room temperature					a) for information only
mm		R	Rp 0.2	A%	Kv +20 °C	HB ^{a)}	
from	to	N/mm ² min	N/mm ² min	min	J min	max	
	100	430	245	16		200	+RA recrystallization annealing

Cold-drawing

size		Testing at room temperature					+RA+C recrystallization annealing and cold-drawing
mm		R	Rp 0.2	A%	Kv +20 °C	HB	
from	to	N/mm ² min	N/mm ² min	min	J min	max	
	10	520	320	7			
	10	480	300	7			
	16	420	240	12			
	40	420	240	12			

Thermal expansion	10 ⁻⁶ • K ⁻¹	▶	10.6	11.4	12.0
Modulus of elasticity	longitudinal	GPa	206		
Poisson number	ν		0.29 ~		
Electrical resistivity	Ω • mm ² /m		0.70		
Electrical conductivity	Siemens•m/mm ²		1.42		
Specific heat	J/(Kg•K)		460		
Density	Kg/dm ³		7.61		
Thermal conductivity	W/(m•K)		25		
Relative magnetic permeability	μ_r		600-800 ~		
°C			20	200	400 600

The symbol ▶ indicates temperature between 20 °C and 200 °C, 20 °C and 400 °C

Corrosion resistance	Atmospheric			Chemical			x food, nitric acid, dairy products
	<i>fresh water</i>	<i>industrial</i>	<i>marine</i>	<i>medium</i>	<i>oxidizing</i>	<i>reducing</i>	
x	x			x			

Magnetic	yes
Machinability	high
Hardening	cold-drawn and other cold plastic deformations
Service temperature in air	continuous service up to 780 °C; intermittent service up to 830 °C

Europe	USA	USA	China	Russia	Japan	India	Republic of Korea
EN	UNS	ASTM	GB	GOST	JIS	IS	KS

(X6CrMoS17)