



High Weldability Ferritic Stainless Steel

NSSC 410W

12Cr-LC / Similar grade : SUS 410L

Features and Applications

NSSC 410W has improved weldability and mechanical properties at each weld.

- 1. Excellent weldability enables MIG welding and arc welding to be carried out without pre- and post-heating.
- 2. Excellent bendability and toughness of weld joints.
- 3. Wide range of mechanical properties obtained through selection of the appropriate heat-treating conditions.
- 4. Corrosion resistance and high-temprerature oxidation resistance equal to those of conventional SUS 410L.
- [Applications] Heat-resistant equipment, other equipment and building materials not exposed to severely corrosive environments.

Characteristics

[Mechanical properties]

	Yield strength 0.2% offset N/mm ²	Tensile strength N/mm ²	Elongation	Hardness HV	Bending	
			%		Angle	Inside radius
Specification	≧195	≧360	≧22	≦200	180°	1.0t
Typical values	284	462	30	145	No cracking	

[Mechanical properties after temper heat treatment]

Tempering temperature °C	Yield strength 0.2% offset N/mm ²	Tensile strength N/mm ²	Elongation %	Bending (r=1t)	Hardness HV	
700	481	627	22.0	No cracking	187	
750	320	523	27.6	No cracking	170	
800	285	490	32.8	No cracking	136	
(Thickness : 8mm)						

[Mechanical properties of welded joints]

Grade	Welding Welding Method materials	T I ' I	Tensile	Pupturo	Impact test*				
		materials	mm	strength N/mm ²	location	vE₀ J	vE ₂₀ J	vTrs °C	Bending test**
NSSC 410W	Base metal	_	9.5	549	-	51.0	61.8	<-100	r=1.0t No cracking
	MIG	YM-309	"	Dle	Base metal	66.7	74.5	-60	r=2.0t No cracking
	Arc hand	309R	"	557	"	54.9	69.6	-18	r=2.0t No cracking
	"	410Nb	"	556	"	44.1	59.8	+32	r=2.0t No cracking
SUS 405	Base metal	-	7.0	—	-	30.4	32.4	-35	
	Arc hand	309R	"	500	Base metal	-	6.9	_	
	"	410Nb	"	504	11	-	_	—	

(*impact test piece: L direction, subsize 5mm **Bending test : L direction, roller bend test)

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