



YU 410L
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- YU 410L (較佳焊接性之節銘型鋼種)
- YU 410 (麻田散鐵系代表性鋼種)
- YU 409L (兼具耐蝕及焊接性鋼種)

YU 410L〈較佳焊接性之節鉻型鋼種〉

YU 410L 〈A Low-chromium Stainless Steel with Better Weldability〉

一、產品特性

1. 兼具焊接性及光亮表面。

透過化學成份設計，使 410L 產品兼具適當焊接性及光亮表面之性質。

2. 具成本優勢。

因所需添加鉻含量較少，故相較於一般430 鋼種具有較低成本的優勢。

I. Product Features

1. Excellent weldability and glossy surface

Through a special chemical composition design, the grade 410L stainless steel has both features of proper weldability and glossy surface.

2. Cost advantage

Higher cost-competitive than 430 stainless steel for containing less chromium.

二、應用

410L不銹鋼的耐蝕性及耐溫性足以應付汽車排氣之環境，因此主要應用在汽、機車之排氣管。另外因其焊接性及成形性較 430 為佳，亦可取代部分 430 鋼種之用途。

II. Applications

The corrosion resistance and temperature-resistance of grade 410L stainless steel can withstand the vehicle exhaust; thus, it is primarily used for the exhaust systems of cars and motorcycles. In addition, since it has better weldability and formability, it can also replace the grade 430 stainless steel in some of its applications.

三、規範:成份及機械性質皆符合 JIS SUS410L 之要求

III. Specifications:Conform with the JIS SUS410L in chemical composition and mechanical property.

1.成份 Composition

鋼種 Grade	化學成份 Chemical Composition (wt%)	
	Cr	C
JIS SUS410L	11.00~13.50	≤0.030
YU 410L (代表例 Typical)	13.00	0.015
一般SUS 430 Regular SUS 430	16.20	0.040

2.機械性質 Mechanical properties

鋼種 Grade	降伏強度 Yield Strength (MPa)	抗拉強度 Tensile Strength (MPa)	伸長率 Elongation (%)	硬度 Hardness (HRB)
JIS SUS410L	≥ 195	≥ 360	≥ 22	≤ 88
YU 410L (代表例 Typical)	272	433	33	72
SUS 430 (代表例 Typical)	332	497	30	81

YU 410L 延伸率較一般 430 鋼種高。

YU410L has better elongation rate than regular 430 stainless steel.

四、物理性質 IV. Physical Properties

鋼種 Grade	密度 Density (g/cm ³)	熱膨脹係數 Thermal Expansion Coefficient (10 ⁻⁶ /°C)	熱導率 Heat Conductivity (W/m · °C)
		0~600°C	20°C
410L	7.7	12.0	25.0
430	7.7	11.5	25.0

五、耐蝕性、焊接性及成形性

不銹鋼之主要耐蝕性來自所添加Cr元素所形成之鈍化膜，因此410L之耐蝕性將略低於一般430鋼種；但因其碳含量較低，故具較佳之焊接性及成形加工特性。

V. Corrosion Resistance, Weldability, and Formability

The corrosion resistance capability of stainless steel mainly comes from the passivation film formed due to be with Cr added; thus, the corrosion resistance of grade 410L stainless steel is slightly lower than the regular grade 430 stainless steel. Due to be with lower carbon content, it is with better weldability and form ability.

六、可接單產品、尺寸及表面品級

請與燁聯業務人員接洽。

VI. Available dimensions and surface finish

Please contact the sales representative of Yieh United Steel Corp.

YU 410〈高耐磨耗之麻田散鐵系鋼種〉

YU 410 〈High Wear-resistant Martensitic Stainless Steel〉

一、產品特性

1. 擁有高強度、硬度和耐磨性質。

透過化學成份設計及後續熱處理，可得到高強度、硬度和耐磨性，並兼具適當耐蝕性。

2. 具成本優勢。

因所須添加之鉻合金量較少且不添加鉻以外之合金，故相較於一般不銹鋼鋼種具有較低成本優勢。

二、應用

主要應用在刀具類、機車/腳踏車碟煞盤、排氣管法蘭、彈簧、閥門、分離器、過濾器、渦輪葉片等用途。

I. Product Features

1. High strength, hardness and wear-resistance

Through the design of chemical composition and post-heat treatment, creates high strength, hardness and wear-resistance, as well as proper corrosion resistance.

2. Cost advantage

Higher cost-competitive than other stainless steel series for containing less chromium and no other precious metals added.

II. Applications

Primarily used in knives, brake discs of motorcycles/bicycles, exhaust pipe flanges, springs, valves, separators, filters, turbine blades, and other purposes.

三、規範:YU 41001及YU 41002皆同時符合JIS/ASTM/EN之國際規範要求。

III. Specifications:Both YU 41001 and YU 41002 are compliant with the requirements of the international standards of JIS/ASTM/EN.

1.成份 Composition

鋼種 Grade	化學成份 Chemical Composition (wt%)		
	Cr	Mn	C
JIS SUS410	11.50~13.50	≤1.00	≤0.15
ASTM S41000	11.50~13.50	≤1.00	0.08~0.15
EN 1.4006	11.50~13.50	≤1.50	0.08~0.15
YU 41002 (代表例 Typical)	12.15	0.90	0.092
YU 41003 (代表例 Typical)	12.15	0.90	0.060

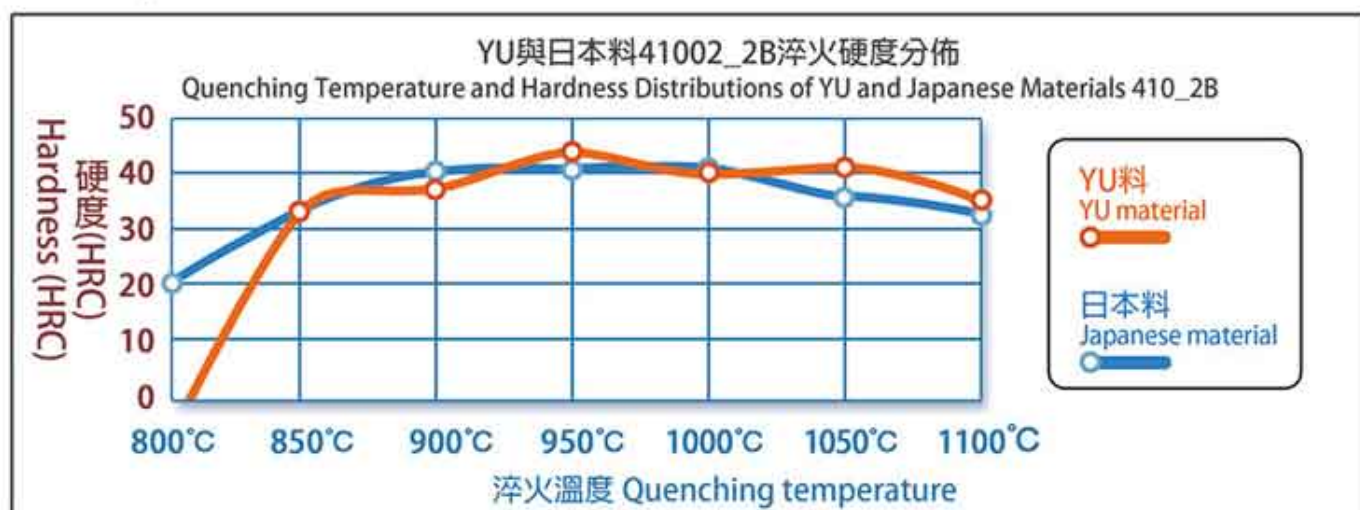
2.機械性質 Mechanical properties

鋼種 Grade	降伏強度 Yield Strength (MPa)	抗拉強度 Tensile Strength (MPa)	伸長率 Elongation (%)	硬度 Hardness (HRB)
JIS SUS410	≥ 205	≥ 440	≥ 20	≤ 93
ASTM S41000	≥ 205	≥ 450	≥ 20	≤ 96
SUS 420J2	380	632	25	90
YU 41002 (代表例 Typical)	327	522	30	80
YU 41003 (No.1代表例 Typical)	313	467	32	81

四、物理性質 IV. Physical Properties

鋼種 Grade	密度 Density (g/cm ³)	熱膨脹係數 Thermal Expansion Coefficient (10 ⁻⁶ /°C)	熱導率 Heat Conductivity (W/m · °C)
		0~600°C	20°C
410	7.7	12.0	25.0

五、熱處理後性質 V. Properties after the Heat Treatment



YU 41002_2B與日本料 410DB_2B淬火硬度相近。

YU 41002_2B and Japanese 410DB_2B have similar quenching hardness.

六、可接單產品、尺寸及表面品級

請與燁聯業務人員接洽。

VI. Available dimensions and surface finish

Please contact the sales representative of Yieh United Steel Corp.

YU 409L〈兼具耐蝕及焊接性之肥粒鐵系鋼種〉

YU 409L <A Corrosion Resistant and Superior Weldability Ferritic Stainless Steel>

一、產品特性

兼具適當的耐蝕及焊接性。

透過適當的Cr、極低C、N控制及Ti添加，使 409L 產品兼具適當的耐蝕性及焊接性。

二、應用

1. 汽/機車排氣系統。
2. 球閥部件等用途。

I. Product Features

Proper corrosion resistance and weldability.

Containing proper amount of Cr, extremely low C & N with controlled Ti, the grade 409L stainless steel has both proper corrosion resistance and weldability.

II. Applications

1. Automobile/motorcycles exhaust pipe system
2. Part of ball valve

三、規範:同時符合JIS SUH 409L及ASTM S40910之成份及機械性質要求

III. Specifications: Conform with the JIS SUS420J2 in chemical composition and mechanical property.

1.成份 Composition

鋼種 Grade	化學成份 Chemical Composition (wt%)			
	Cr	Ti	C	N
JIS SUH 409L	10.50 ~ 11.75	6C ~ 0.75	≤0.030	-
ASTM S40910	10.50 ~ 11.70	6(C+N) ~ 0.50	≤0.030	≤0.030
YU 409L (代表例 Typical)	11.20	0.23	0.010	0.008

2.機械性質 Mechanical properties

鋼種 Grade	降伏強度 Yield Strength (MPa)	抗拉強度 Tensile Strength (MPa)	伸長率 Elongation (%)	硬度 Hardness (HRB)
JIS SUH 409L	≥175	≥360	≥25	≤80
ASTM S40910	≥170	≥380	≥20	≤88
YU 409L (代表例 Typical)	255	417	38	71

四、物理性質 IV. Physical Properties

鋼種 Grade	密度 Density (g/cm ³)	熱膨脹係數 Thermal Expansion Coefficient (10 ⁻⁶ /°C)	熱導率 Heat Conductivity (W/m · °C)
		0~600°C	20°C
409L	7.7	12.0	25.0
304	7.9	18.7	15.0

低熱膨脹係數於溫度變化環境下使用不易變形，高熱導率具有導熱散熱快速之優點。
Low thermal expansion coefficient can prevent deformation in an environment with temperature changes; high thermal conductivity provides better efficiency of heat conduction and dissipation.

五、焊接性

409L 因成份具極低 C、N 並添加足夠之 Ti 元素，故較 410L、430 等鋼種具較佳之焊接性及焊後加工成形性。

V. Weldability

Containing extremely low C and N, also with sufficient Ti, the grade 409L stainless steel has better corrosion resistance and weldability than grade 410L and 430 stainless steel.

六、可接單尺寸及表面品級

請與燁聯業務人員接洽。

VI. Available dimensions and surface finish

Please contact the sales representative of Yieh United Steel Corp.



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