



YU 430
YU 443
YU 441

- YU 430 (具經濟、耐蝕之肥粒鐵鋼種)
- YU 443 (可替代304之高耐蝕肥粒鐵鋼種)
- YU 441 (耐高溫氧化之肥粒鐵鋼種)

YU 430〈具經濟、耐蝕之肥粒鐵系鋼種〉

YU 430 〈An Economic and High Corrosion Resistant Ferritic Stainless Steel〉

一、產品特性

1. 耐蝕性。
可耐一般大氣及多種介質腐蝕之肥粒鐵系不銹鋼。
2. 低加工硬化率。
容易彎曲及成形加工。
3. 具成本優勢。
不添加鎳及鉬等貴重合金，具成本優勢。
4. 優良的外觀表面。
透過適當的加工處理(例如光輝退火、鏡面加工)，可得優異之外觀表面及提升其耐蝕性能。

二、應用

餐廚鍋具、家電製品、汽車內/外部裝飾件、建築裝飾等用途。

I. Product Features

1. Corrosion resistance
High corrosion resistance under the atmosphere environment and many kinds of corrosion mediums.
2. Low work hardening rate
Easy to bend and fabricate.
3. Cost advantage
With cost advantage for not containing precious metals such as nickel and molybdenum.
4. Excellent surface appearance
With proper processed (such as bright annealing and mirror finishing) to create excellent surfaces and improved corrosion resistance.

II. Applications

Kitchenware, home appliances, automobile interior/ exterior decorations, architectural decorations, etc.

三、規範:成份及機械性質皆符合JIS SUS430、ASTM S43000及EN 1.4016之要求。

III. Specifications: Conform with the JIS SUS430, ASTM S43000, and EN 1.4016 in chemical composition and mechanical property.

1.成份 Chemical compositions

鋼種 Grade	化學成份 Chemical Composition (wt%)				
	Ni	Cr	Mo	C	N
JIS SUS430	≦0.60	16.00~18.00	-	≦0.12	-
ASTM S43000	≦0.75	16.00~18.00	-	≦0.12	-
EN 1.4016	-	16.00~18.00	-	≦0.08	-
YU 430 (代表例 Typical)	-	16.10	-	0.045	0.035

若有特別化學成份需求，請與燁聯營業人員接洽。

If you have special requirements on the chemical composition, please contact the sales representative of Yieh United Steel Corp.

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 SUS430	≧205	≧420	≧22	≧88
ASTM S43000	≧205	≧450	≧22	≧89
EN 1.4016(H)	≧240	430~600	≧18	-
EN 1.4016(C)	≧260	430~600	≧20	-
YU 43001 (代表例 Typical)	332	497	30	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
430	7.7	11.5	25.0

五、耐蝕性及焊接性

1. 在一般的大氣及多數介質環境下，透過適當的加工處理(例如光輝退火、鏡面加工)，可得優異之外觀表面及提升其耐蝕性能。
2. 430的焊接性不佳，一般焊接前須進行 150~200°C 之預熱處理且焊後須進行適當的焊後熱處理，以消除焊道及熱影響區之硬脆相組織，以提升延展性及耐蝕性。

六、可接單尺寸及表面品級

請與燁聯業務人員接洽。

V. Corrosion Resistance and Weldability

1. With proper processed (such as via bright annealing and mirror finishing) to create excellent surfaces and improved corrosion resistant under the atmosphere environment and many kinds of corrosion mediums.
2. 430 has poor weldability. However, the hard and brittle structure properties can be eased by preheating treatment at 150~200°C before welding, and proper post-welding heat treatment. The extensibility and corrosion resistance shall then be improved.

VI. Available dimensions and surface finish

Please contact the sales representative of Yieh United Steel Corp.

YU 443 <可替代304之高耐蝕肥粒鐵系鋼種>

YU 443<A high Corrosion Resistant Ferritic Stainless Steel substitute for grade 304>

一、產品特性

1. 耐蝕性與 304 相當。
具高鉻含量，抗蝕能力與304相當。
2. 兼具低熱膨脹、高熱傳導特性。
比一般300系不銹鋼更適用於高溫/溫度變化環境。
3. 焊接性良好。
添加鈮元素進行穩定化，可避免焊接後的晶界腐蝕。
4. 具成本優勢。
因不添加鎳等貴重合金，故相較於304具有較低成本之優勢。
5. 具優良衝壓成形性。

二、應用

1. 汽車排氣系統。
2. 餐廚鍋具、家電製品、建築裝飾等。

I. Product Features

1. Corrosion resistance is equivalent to 304
With high chromium content; corrosion resistance is equivalent to grade 304 Stainless Steel.
2. Low thermal expansion and high thermal conductivity
More capable than 300 series stainless steel in high temperature/ temperature variation environment.
3. Excellent weldability
Niobium added for stabilization and preventing from intergranular corrosion after welding.
4. Cost advantage
Higher Cost-competitive than 304 series stainless steel for not containing precious metals, such as nickel.
5. Excellent deep drawing formability

II. Applications

1. Automobile exhaust pipe system.
2. Kitchenware, home appliances, architectural decorations, etc..

三、規範:符合 JIS 443J1之成份及機械性質要求。

III. Specifications: Conform with the JIS SUS443J1 in chemical composition and mechanical property.

1.成份 Chemical compositions

鋼種 Grade	化學成份 Chemical Composition (wt%)						
	Cr	Ni	Nb	Ti	Cu	C	N
JIS 443J1	20.00~23.00	≤0.60	8(C+N)~0.80		0.30~0.80	≤0.025	≤0.025
YU 443 (代表例 Typical)	20.20	-	0.25	-	0.40	0.013	0.011
YU 304	18.20	8.10	-	-	-	-	-

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 443J1	≥205	≥390	≥22	≤90
YU 443 (代表例 Typical)	330	470	32	79
YU 304 (代表例 Typical)	297	671	54	84

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
443	7.7	11.5	22.5
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.

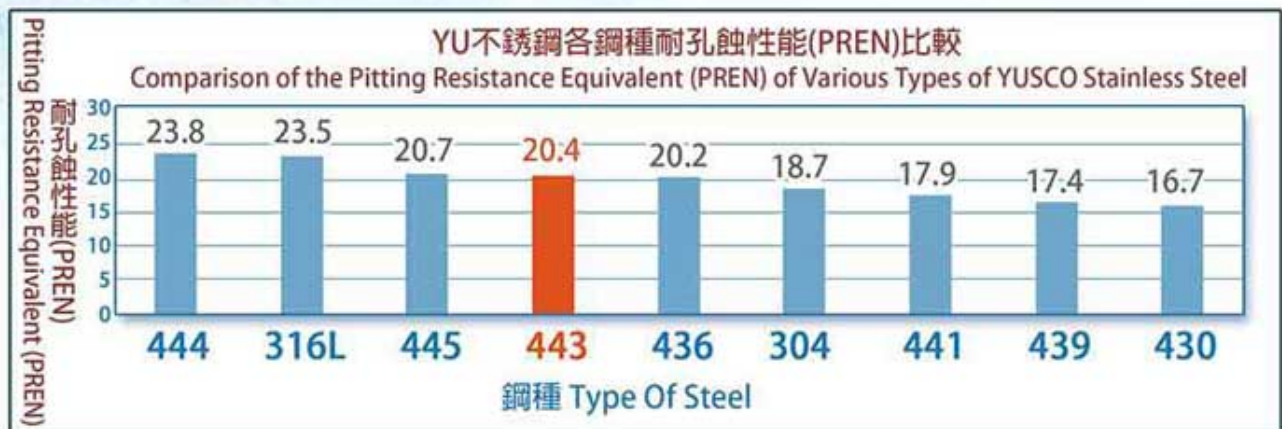
五、耐蝕性

V. Corrosion Resistance

耐孔蝕當量(Pitting Resistance Equivalent, PREN) , 該計算值越高其耐孔蝕性越佳。

Pitting Resistance Equivalent (PREN); higher PREN value represents better pitting resistance.

$$PREN = Cr + 3.3Mo + 16N$$



YU 443耐孔蝕性能力優於YU 304鋼種。

YU 443 steel has better pitting resistant capability than YU 304 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.

YU 441 <耐高溫氧化肥粒鐵系鋼種>

YU 441 <A High-temperature Oxidation Resistant Ferrite Stainless Steel>

一、產品特性

1. 具抗高溫氧化性質。
比430具較高之抗高溫氧化能力。
2. 兼具低熱膨脹、高熱傳導特性。
比一般300系不銹鋼更適用於高溫/溫度變化環境。
3. 焊接性良好。
添加鈮元素進行穩定化，可避免焊接後的晶界腐蝕。
4. 具成本優勢。
因不添加鎳等貴重合金，故相較於300系具有較低成本之優勢。
5. 具優良衝壓成形性。

二、應用

1. 汽車排氣系統。
2. 汽車內/外部裝飾件。
3. 烤肉爐燃燒管、餐廚鍋具、家電製品、建築裝飾等用途。

I. Product Features

1. High-temperature oxidation resistance
With better high-temperature oxidation resistant capability than grade 430 stainless steel.
2. Low thermal expansion and high thermal conductivity
More capable than 300 series stainless steel in high temperature/ temperature variation environment.
3. Excellent weldability
Niobium added for stabilization and preventing from intergranular corrosion after welding.
4. Cost advantage
Higher Cost-competitive than 300 series stainless steel for not containing precious metals, such as nickel.
5. Excellent deep drawing formability

II. Applications

1. Automobile exhaust pipe system.
2. Vehicle interior/exterior decorations.
3. BBQ grill burner tubes, kitchenware, home appliances, architectural decorations, etc.

三、規範:符合 EN 10088-2 1.4509 之成份及機械性質要求。

III. Specifications: Conform with the EN 10088-2 1.4509 in chemical composition and mechanical property.

1.成份 Chemical compositions

鋼種 Grade	化學成份 Chemical Composition (wt%)				
	Cr	Nb	Ti	C	N
EN 1.4509	17.50~18.50	(3C+0.30)~1.00	0.10~0.60	≤0.030	-
YU 441 (代表例 Typical)	17.70	0.37	0.20	0.016	0.012

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)
EN 1.4509	≥ 230(long.) ≥ 250(tr.)	430~630	≥ 18	-
YU 441 (代表例 Typical)	340	480	31	80
YU 304 (代表例 Typical)	297	671	54	84

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
441	7.7	11.5	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、耐蝕性

V. Corrosion Resistance

耐孔蝕當量(Pitting Resistance Equivalent, PREN) , 該計算值越高其耐孔蝕性越佳。

Pitting Resistance Equivalent (PREN); higher PREN value represents better pitting resistance.

$$PREN = Cr + 3.3Mo + 16N$$



YU 441較YU 430具較佳之耐孔蝕性。

YU 441 steel has better pitting resistant capability than the YU 430 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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