



## Casting Material: Stainless Steel CA15 (SS410)

SS410 is a Martensitic stainless steel with corrosion resistant property. The casting grade is named as CA15 (J91150) in standard of ASTM A743/A743M and ASTM A217/A217M and ASTM A487/A487M only. It's a cheap stainless steel with good hardness.

Casting Quality Industrial provide **CA-15 (SS410)** by sand casting or investment casting (lost wax precision casting) process.

**Similar Stainless Steel Grade:** [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

Wrought Grade: ASTM/UNS 410;  
Wrought UNS: S41000;  
AISI 410  
GB/T 2100 Grade ZG1Cr13;  
JIS G5121 Grade SCS1;;  
BS 4100 Grade 410C21;  
EN 10283 Grade GX12Cr12, Number 1.4011  
EN 10088 Grade X12Cr13, number EN1.4006;

**STAINLESS STEEL CA-15 IS NOT DEFINED IN ASTM A351, ONLY BE FOUND IN ASTM A217 AND ASTM A743 AND ASTM A487**

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### **CA-15 (SS410) CASTING APPLICATION:**

**CA-15 (SS410)** is mainly used in fluid industry, such as bearings, bushings, chemical and food processing equipment, conveyor rollers, cutlery, impellers, medical devices, pump and valve components, turbine engine parts

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### **CA-15 (SS410) WELDABILITY:**

Involving high temperature are used in the removal of discontinuities, CA-15(SS410) need a preheated at 400°F [205°C]. And the Martensitic stainless steel shall to be re-tempered after welding repairing.

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## CA15 VS Stainless Steel 410

**ASTM A217 Standard Specification for Steel Castings, Martensitic Stainless and Alloy, for Pressure-Containing Parts, Suitable for High-Temperature Service**

**ASTM A487 Standard Specification for Steel Castings Suitable for Pressure Service**

**ASTM 743A Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application**

**ASTM A240 Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications**

**ASTM A182: Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service**

**ASTM A276: Standard Specification for Stainless Steel Bars and Shapes**

Stainless Steel Grade		CA-15 (SS410) Physical Properties							
Standard	Grade	Carbon	Manganese	Silicon	Sulfur	Phosphorus	Chromium	Nickel	Mo
ASTM A217	CA15	0.15	1.00	1.50	0.040	0.040	11.5-14.0	1.0	0.5
ASTM A487	CA15	0.15	1.00	1.50	0.040	0.040	11.5-14.0	-	0.5
Type ABCD Martensitic Chromium. Cu 0.50;W 0.10; V 0.05 (Total content of residual 0.50)									
ASTM A743	CA15	0.15	1.00	1.50	0.040	0.040	11.5-14.0	1.0	0.5
ASTM A276	410	0.08-0.15	1.00	1.00	0.040	0.030	11.5-13.5	-	-
ASTM A182	F 6a	0.15	1.00	1.00	0.040	0.030	11.5-13.5	0.50	-
ASTM A240	410	0.08-0.15	1.00	1.00	0.040	0.030	11.5-13.5	0.75	-

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**CA15 (SS410) Heat treatment process:** [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

- (1) Heat to 1750°F [955°C] minimum, air cool and temper at 1100°F [595°C] minimum, or
- (2) Anneal at 1450°F [790°C] minimum. [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

**In standard of ASTM A487, Austenitizing temperature at 1750°F [955°C], quenching cool at 400°F [205°C] in air or liquid, but need four TEMPRING TEMPERATURE to get good property. Double temper with the final temper at a lower temperature than the intermediate temper, air cool to below 200°F [95°C] after first temper.:**



CA15 CLASS A: Tempering temperature at 900°F [480°C]  
 CA15 CLASS B: Tempering temperature at 1100°F [595°C]  
 CA15 CLASS C: Tempering temperature at 1150°F [620°C]  
 CA15 CLASS D: Tempering temperature at 1150°F [260°C]

**CA15 (SS410) Stainless Steel Mechanical Property**

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Stainless Steel Grade			Tensile Strength min		Yield Strength, min		Elongati on, min	Reducti on of Area	Hardnes s, Max	Heat treatme nt
Stand ard	Grad e	UNS	Ksi	MPa	Ksi	MPa	%	min, %	Brinell	
ASTM A217	CA15	-	90-11 5	620-79 5	65	450	18	30	-	-
ASTM A487	CA15 A	-	140-1 70	965-11 70	110-1 30	760-8 95	10	25	-	A
	CA15		90-11 5	620-79 5	65	450	18	30	-	B
			90	620	60	415	18	35	235(22R C)	C
			100	690	75	515	17	35	235(22R C)	D
ASTM A743	CA15	J9115 0	90	620	65	450	18	30	241	-
ASTM A240	410	S410 00	65	450	30	205	20.0	-	217(96R B)	-
ASTM A276	410	S410 00	70	480	40	275	20	45	A/hot finished-	
			70	480	40	275	16	45	A/cold finished	
			100	690	80	550	15	45	T/hot finished	
			100	690	80	550	12	40	T/cold finished	
ASTM A182	F 6a	S410 00	70	485	40	275	18	35	143-207	Class 1
			85	585	55	380	18	35	167-29	Class 2
			110	760	85	585	15	35	235-302	Class 3
			130	895	110	760	12	35	263-321	Class 4

**SERVICE IN QINGDAO CASTING QUALITY INDUSTRIAL**

- I SAND CASTING
- I INVESTMENT CASTING
- I SHELL CASTING
- I PERMANENT MOLD CASTING
- I CNC MACHINING



As a professional casting manufacture, Qingdao Casting Quality Industrial pay much attention to the quality and technology, our products are much more casting and forging parts. We are mainly do Sand Casting, Investment Casting (Lost Wax Casting or Precision Casting) and Die Casting .Today, its products are marketed globally through many countries.

### Our Services

Casting Quality focus on Metal Parts industry, we provide professional service in Metal Casting field.

1. Sand Casting
2. Investment Casting
3. Shell Casting
4. CNC Machining
5. CAD Design
6. Tools/Mold Design

Many buyers from all over the world purchase products from China. But do you know the quality of products in China? Maybe you only pay the surface and price, but the inner quality is lost.

Housing Casting Design in Solidworks

What makes Casting Quality the best?

### **Innovation**

Our engineers are more than just designers....they're pioneers. Our team use CAD/CAM to do the simulation of casting parts .Through the advanced technology, we can know the weight and structure. We also visited so many factories to know their difference and improve our products every year.

### **Quality**

We're obsessed with quality. Casting Quality constantly strives to exceed our customers' expectations in durability and performance. In fact, we will control the whole process from the original material to the finished parts , include the technology .Uniquely-designed Quality Control System focuses on ensuring four product goals: 1) Eligible Chemistry , 2) Hardness 3) Property and 4) Affordable Pricing. The result is the best casting products value in the industry.

### **Service**

We're in Qingdao,China, It has convenient transportation of road and sea. Courteous service is part of who we are, and we do it better than anyone in the industry. With Casting Quality you can expect friendly, knowledgeable, and prompt customer service.

### **Fulfillment**

Shipping orders complete and on-time is of paramount importance to our customers. We will count the delivery date and result before accept your order. Casting Quality consistently ranks as one of the best in speed of delivery and fill rates.