



## Casting Material: Stainless Steel CK20(SS310)

25%Cr-20%Ni stainless steel SS310(S31000) is the common grade in standard of ASTM A167 only. The casting grade is named as CK20 (J94202) in standard of ASTM A743/A743M. The high alloy content of SS310 give good high temperature properties with good ductility and weldability, mainly used for high temperature service, such as heat shields, furnace part and ducting.

The low carbon content is 310S/310H in standard of ASTM A240.

Grade 310L in ASTM A240 is a 0.03% max carbon grade of 310, used for special corrosive application.

Casting Quality Industrial provide CK20 (SS310) by sand casting or investment casting (lost wax precision casting) process.

### Similar Stainless Steel Grade:

W.CASTINGQUALITY.COM

ASTM/UNS 310/S31000, 310S/S31008

EN 10095, DIN 1.4841, 1.4842, 1.4840, 1.4845(X8CrNi24-21)

BS 310S24, 310S31, 3100C45



**ASTM A351 Standard Specification for Castings, Austenitic, for Pressure-Containing Parts:**

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

**ASTM A167 Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip**

**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		CK20 (SS310) Physical Properties							
Standard	Grade	Carbon	Manganese	Silicon	Sulfur	Phosphorus	Chromium	Nickel	Mo
ASTM A743	CK20	0.20	2.00	2.00	0.04	0.04	23.0-27.0	19.0-22.0	-



ASTM A351	CK20	0.01-0.20	1.50	1.75	0.04	0.04	23.0-27.0	19.0-22.0	0.50
ASTM A167	310	0.25	2.00	1.50	0.030	0.045	24.0-26.0	19.0-22.0	-
ASTM A276	310	0.25	2.00	1.50	0.030	0.045	24.0-26.0	19.0-22.0	-
	310S	0.08	2.00	1.50	0.030	0.045	24.0-26.0	19.0-22.0	-
	310Cb	0.08	2.00	1.50	0.030	0.045	24.0-26.0	19.0-22.0	-
ASTM A182	F310	0.25	2.00	1.00	0.030	0.045	24.0-26.0	19.0-22.0	-
	F310H	0.04-0.10	2.00	1.00	0.030	0.045	24.0-26.0	19.0-22.0	-
	F310 MoLN	0.030	2.00	0.40	0.015	0.030	26.0-26.0	21.0-23.0	2-3
ASTM A240	310S	0.08	2.00	1.50	0.030	0.045	24.0-26.0	19.0-22.0	-
	310H	0.04-0.10	2.00	0.75	0.030	0.045	24.0-26.0	19.0-22.0	-
	310Cb	0.08	2.00	1.50	0.030	0.045	24.0-26.0	19.0-22.0	-
	310H Cb	0.04-0.10	2.00	0.75	0.030	0.045	24.0-26.0	19.0-22.0	-
	310Mo LN	0.020	2.00	0.50	0.010	0.030	24.0-26.0	20.5-23.5	.160 -2.60
310MoLN contain: N 0.09-0.15; F310MoLN contain: N 0.10-0.16									

**CK20 (SS310) Heat treatment process:** [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

Heat to 2000°F [1093°C] minimum, hold for sufficient time to heat casting to temperature, quench in water or rapid cool by other means.

CK20(SS310/310S) is generally used at temperatures starting from about 800 or 900 °C - above the temperatures at which 304H and 321.

**CK20 (SS310) Stainless Steel Mechanical Property** [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

Stainless Steel Grade			Tensile Strength min		Yield Strength, min		Elongation, min	Reduction of Area	Hardness, Max	
Standard	Grade	UNS	Ksi	MPa	Ksi	MPa	%	min, %	Brinell	Rockwell B
ASTM	CK20	J94202	65	450	28	195	30	-	-	-





A743										
ASTM A351	CK20	J94202	65	450	28	195	30	-	-	-
ASTM A167	310	S31000	75	515	30	205	40.0	-	217	95
ASTM A240	310S	S31008	75	515	30	205	40	-	217	95
	310H	S31009	75	515	30	205	40.0	-	217	95
	310Cb	S31040	75	515	30	205	40.0	-	217	95
	310Hcb	S31041	75	515	30	205	40.0	-	217	95
	310MoLN	S31050	84	580	39	270	25	-	217	95
		S31050	78	540	37	255	25	-	217	95
ASTM A182	F310		75	515	30	205	30	50	-	-
	F310MoLN		78	540	37	255	25	40	-	-
	F 310H		75	515	30	205	30	50	-	-

### CK20 (SS310) CASTING APPLICATION: [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

CK20(SS310) is used for fluidised bed combustors, kilns, radiant tubes, tube hangers for petroleum refining and steam boilers, coal gasified internal components, lead pots, refractory anchor bolts, burners and combustion chambers, retorts, muffles, annealing covers, food processing equipment, cryogenic structures.

### CK20 (SS310) WELDABILITY: [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

Good characteristics suited to all standard methods. Grade 310S electrodes generally recommended for fusion welding. AS 1554.6 pre-qualifies welding of 310 with Grade 310 rods or electrodes.

### CK20 (SS310) Heat Resistance: [WWW.CASTINGQUALITY.COM](http://WWW.CASTINGQUALITY.COM)

CK20(SS310/310S) have good resistance to oxidation in intermittent service in air up to 1035°C and 1050°C in continuous service.

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.

### ***SERVICE IN QINGDAO CASTING QUALITY INDUSTRIAL***

- I SAND CASTING
- I INVESTMENT CASTING
- I SHELL CASTING
- I PERMANENT MOLD CASTING
- I CNC MACHINING
- I CAD/CAM DESIGN