



Casting Material: Stainless Steel CH20 (SS309)

Stainless steel CH20 is an austenitic stainless steel with high corrosion resistance and strength property. It's typically used for elevated temperature applications. The high chromium and nickel content provides comparable corrosion resistance, superior resistance to oxidation, and the retention of a larger fraction of room temperature strength than CF8 (SS304).

CH20 is listed in ASTM A351 and ASTM A743 standard. Casting UNS number is J93400.

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Casting Quality Industrial provide CH20 (SS309) by sand casting or investment casting (lost wax precision casting) process.

Similar Stainless Steel Grade:

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Wrought Grade: ASTM/UNS 309;

Wrought UNS: S30900;

AISI 309

JIS G5121 Grade SCS 17;

BS 3100 Grade 309C30;

EN 10088 Grade X12CrNi23-13, EN Number 1.4833

EN 10088 Grade X15CrNiSi20-12, EN Number 1.4828



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		CH20 (SS309) Chemical Composition /Physical Properties							
Standard	Grade	Carbon	Manganese	Silicon	Sulfur	Phosphorus	Chromium	Nickel	Mo
ASTM A743	CH20	0.20	1.50	2.00	0.04	0.04	22.0-26.0	12.0-15.0	
ASTM A351	CH20	0.04-0.20	1.50	2.00	0.04	0.04	22.0-26.0	12.0-15.0	0.50
ASTM A167	309	0.20	2.00	0.75	0.045	0.03	22.0-24.0	12.0-15.0	
ASTM A276	309	0.20	2.00	1.00	0.045	0.03	22.0-24.0	12.0-15.0	-
	309S	0.08	2.00	1.00	0.045	0.03	22.0-24.0	12.0-15.0	-
	309Cb	0.08	2.00	1.00	0.045	0.03	22.0-24.0	12.0-15.0	-
	309Cb also have Cb 10xC-1.10								
ASTM A182	F309H	0.04-0.10	1.00	2.00	0.045	0.03	22.0-24.0	12.0-15.0	-
ASTM A240	309S	0.08	0.75	2.00	0.045	0.030	22.0-24.0	12.0-15.0	-
	309H	0.04-0.10	0.75	2.00	0.045	0.030	22.0-24.0	12.0-15.0	-
	309Cb	0.08	0.75	2.00	0.045	0.030	22.0-24.0	12.0-16.0	-
	309H Cb	0.04-0.10	0.75	2.00	0.045	0.030	22.0-24.0	12.0-16.0	-
309Cb and 309HCb also contain Cb 10xCmin, 1.10%max									

CH20 (SS309) Heat treatment process: 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.

CH20 (SS309) CASTING APPLICATION: WWW.CASTINGQUALITY.COM

Furnaces — burners, doors, fans, piping and recuperators

Thermal Processing — annealing covers and boxes, burners grids, doors, fans, lead pans and neutral salt pots, muffles and retorts, recuperators, walking beams

Waste Treatment — incinerators, rotary kilns and calciners

Fluidized Bed Furnaces — grids, piping, wind boxes

Paper Mill Equipment

Petroleum Refining — catalytic recovery systems, recuperators

Power Generation — pulverized coal burners, tube hangers



CH20 (SS309) Stainless Steel Mechanical Property

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 A743	CH20	15Chromium, 12Nickel	70	485	30	205	30	-	-	-
ASTM A351	CH20	J93402	70	485	30	205	30.0	-	-	-
ASTM A167	309	S30900	75	515	30	205	40.0	-	217	95
ASTM A240	309S	S30908	75	515	30	205	40	-	217	95
	309H	S30909	75	515	30	205	40	-	217	95
	309Cb	S30940	75	515	30	205	40	-	217	95
	309HCb	S30941	75	515	30	205	40	-	217	95
ASTM A182	F309H	S30909	75	515	30	205	30	50	-	-
ASTM A276	309/309S /309Cb	Hot finished	75	515	30	205	40	50		
		Cold finished	90	620	45	310	30	40	1/2 Thickness	
			75	515	30	205	30	40	>1/2 Thickness	

CH20 (SS309) WELDABILITY:

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Good characteristics suited to all standard methods. Grade 309L electrodes generally recommended for fusion welding.

CH20 (SS309) High Temperature Corrosion: WWW.CASTINGQUALITY.COM

Alloy CH20 (SS309) resists high temperature corrosion in most in-service conditions. Operating temperatures are as follows:

Oxidizing conditions (max. sulfur content – 2 g/m³)

1922°F (1050°C) continuous service

2012°F (1100°C) peak temperature

Oxidizing conditions (max. sulfur greater than 2 g/m³)

1742°F (950°C) maximum temperature

Low oxygen atmosphere (max. sulfur content – 2 g/m³)

1832°F (1000°C) maximum temperature

Nitriding or carburizing atmospheres

1562 –1742°F (850 – 950°C) maximum



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

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.