

# SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202, Grade 202, SUS 202, ASTM 202

## Introduction :

Aesteiron continues to expand its product line in UNS S20200 to meet the emerging customer needs, and whereas Aesteiron Steels Pvt. Ltd. is ISO 9001 : 2008 Certified, ASPL has a great Projects in this grade in all parts of the world with renowned suppliers presenting the wide range of services. We pride ourselves in the quality of our products, our competitive pricing and our exceptional customer service. We have been recognized for our outstanding customer service in satisfaction surveys of top- ranked mills in india and all over the world. ASPL, with iron and steel as its main business, manufactures premium steel products with high technologies and a high added value and fosters three major product categories, namely carbon steel, stainless steel and special steel. Through our worldwide marketing network, these premium products not only satisfy the demand on the domestic market but are also exported to more than forty countries and regions in Asia, Africa, Europa and America, extensively applied to various. We are a highly qualified by our customers worldwide as a sustainable and trustworthy to meet their request and need at the right time and the right time and the right area. We strive and stand committed to maintain this respectable position by catering to the requirements of our customers in the best possible way leaving no room for complaints.

## Chemical Composition

	SS 202	WNR 1.4373	UNS S20200	AISI 202	GRADE 202	SUS 202	ASTM 202
Carbon	0.15 max	0.15 max	0.15 max	0.15 max	0.15 max	0.15 max	0.15 max
Manganese	7.5-10.0	7.5-10.0	7.5-10.0	7.5-10.0	7.5-10.0	7.5-10.0	7.5-10.0
Phosphorus	0.060 max	0.060 max	0.060 max	0.060 max	0.060 max	0.060 max	0.060 max
Sulfur	0.030 max	0.030 max	0.030 max	0.030 max	0.030 max	0.030 max	0.030 max
Silicon	0.75max	0.75max	0.75max	0.75max	0.75max	0.75max	0.75max
Chromium	17.0-19.0	17.0-19.0	17.0-19.0	17.0-19.0	17.0-19.0	17.0-19.0	17.0-19.0
Nickel	4.0-6.0	4.0-6.0	4.0-6.0	4.0-6.0	4.0-6.0	4.0-6.0	4.0-6.0
Nitrogen*	0.25 max	0.25 max	0.25 max	0.25 max	0.25 max	0.25 max	0.25 max

## Mechanical Properties

	SS 202	WNR 1.4373	UNS S20200	AISI 202	GRADE 202	SUS 202	ASTM 202
Tensile Strength(Mpa)	515	515	515	515	515	515	515
Yield Strength(Mpa)	275	275	275	275	275	275	275
Elongation %	40	40	40	40	40	40	40
Reduction in Area, %	-	-	-	-	-	-	-
Hardness, Rockwell B	-	-	-	-	-	-	-

## Standard Available in forms :

- ASTM A182/ ASME SA182 Stainless Steel Pipe Fittings
- ASTM A213 / ASME SA213 Seamless Stainless Steel Pipes
- ASTM A240/ ASME SA240 Stainless Steels Sheets / Plates
- ASTM A249/ ASME SA249 Stainless Steel Welded Tubes
- ASTM A269/ ASME SA269 Stainless Steel Tubes
- ASTM A270/ ASME SA270 Stainless Steel Sanitary Tubes
- ASTM A312/ ASME SA312 Stainless Steel Pipes
- ASTM A403/ ASME SA403 Stainless Steel Pipe Fittings
- ASTM A554/ ASME SA554 Stainless Steel Welded Tubes
- ASTM A731/ ASME SA731 Stainless Steel Pipes
- ASTM A789/ ASME SA789 Stainless Steel Tubes
- ASTM A790/ ASME SA790 Stainless Steel Pipes
- ASTM A791/ ASME SA791 Stainless Steel Tubes

## Products Available in forms :

- SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202 Plates
- SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202 Pipes
- SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202 Round Bar
- SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202 Tube
- SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202 Flanges
- SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202 Wire
- SS 202, Type 202, WNR 1.4373, UNS S20200, AISI 202 Fittings

## Manufacturing Process

- The machinability of grade 202 stainless steel produces long, gummy chips.
- Machining can also be performed in the annealed condition.
- For heat treatment, the material has to be soaked at 1038°C (1900°F) for 30 min and cooled below 16°C (60°F) for full martensite transformation. The material can be welded by common fusion and resistance methods; however, this steel should not be joined using oxyacetylene welding method.
- The recommended filler metal is AWS E/ER630.
- Forging can be done by pre-soaking for 1 h at 1177°C (2150°F). Forging below 1010°C (1850°F) is not advisable.

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## Typical applications

- Household appliances & consumer goods
- Kitchen utensils
- Tableware
- Cutlery
- Pots & pans
- Countertops
- Shoe inserts
- Indoor cladding
- Window frames
- Conveyor chains
- Clips
- Hinges
- Clamps
- Rebar in concrete
- Railroad coaches
- Automotive applications

## Welding

- Type 202 has excellent weldability and is suitable for the full range of conventional welding methods (like MMA, MIG, MAG, TIG, SAW, LBW, or RSW), except gas welding.
- Type 202 has about 50% higher thermal expansion and lower heat conductivity compared to carbon steels.
- This means that larger deformation and higher shrinkage stresses may result from welding.
- In thin sections, autogenous welding may be used. In thicker section, low carbon containing Type 202 is recommended.
- To ensure that the weld metal properties (e.g. strength and corrosion resistance) are equivalent to those of the parent metal, matching or slightly overalloyed fillers should preferably be used.
- The recommended filler metals are 19 9 L, 18 8 Mn, or 23 12 L.
- Post-weld heat treatment is generally not required. In special cases with high risks of stress corrosion cracking or fatigue, stress relief treatment may be considered.
- In order to fully restore the corrosion resistance of the weld seam, the weld discoloration should be removed by pickling and passivation.

## Corrosion Resistance

- Type 202 has excellent corrosion resistance in solutions of many halogen-free organic and inorganic compounds over a wide temperature and concentration range.
- It can withstand many organic and sufficiently diluted mineral acids depending on the temperature of the solution.
- Type 202 may suffer from uniform corrosion in mineral acids and hot strong alkaline solutions.
- Resistance against pitting and crevice corrosion of Type 202 is, however, slightly lower than that of the basic austenitic CrNi standard grades.
- For short periods, for instance when cooking in stainless steel dishes, Type 202 can tolerate even relatively high chloride concentrations.
- Type 202 is prone to chloride-induced stress corrosion cracking at temperatures over about 50 °C depending on the applied stress and the chloride concentration in the environment.
- Type 202 can be used for indoor and outdoor applications in rural areas and urban environments where chloride contamination is low.



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