

Stainless Steel 253MA, WNR 1.4835, UNS S30815, AISI 253MA, Grade 253MA

Introduction :

Aesteiron continues to expand its product line in UNS S30815 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, Europaand America, extensively applied to various. We are a highly qualified by our customers worldwide as a sustainable and trustwothy to meet their requestand 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.

Products Available

in forms :

- Stainless Steel 253MA, WNR 1.4835, UNS S30815 Plates
- Stainless Steel 253MA, WNR 1.4835, UNS S30815 Pipes
- Stainless Steel 253MA, WNR 1.4835, UNS S30815 Round Bar
- Stainless Steel 253MA, WNR 1.4835, UNS S30815 Tube
- Stainless Steel 253MA, WNR 1.4835, UNS S30815 Flanges
- Stainless Steel 253MA, WNR 1.4835, UNS S30815 Wire
- Stainless Steel 253MA, WNR 1.4835, UNS S30815 Fittings

Chemical Composition

	TYPE 253MA	WNR 1.4835	UNS S30815	AISI 253MA	GRADE 253MA
Carbon	0.05-0.10	0.05-0.10	0.05-0.10	0.05-0.10	0.05-0.10
Manganese	0.80 max	0.80 max	0.80 max	0.80 max	0.80 max
Phosphorus	0.040 max	0.040 max	0.040 max	0.040 max	0.040 max
Sulfur	0.030 max	0.030 max	0.030 max	0.030 max	0.030 max
Silicon	1.40-2.00	1.40-2.00	1.40-2.00	1.40-2.00	1.40-2.00
Chromium	20.0-22.0	20.0-22.0	20.0-22.0	20.0-22.0	20.0-22.0
Nickel	10.0-12.0	10.0-12.0	10.0-12.0	10.0-12.0	10.0-12.0
Nitrogen*	0.14-0.20	0.14-0.20	0.14-0.20	0.14-0.20	0.14-0.20
Cerium	0.03-0.08	0.03-0.08	0.03-0.08	0.03-0.08	0.03-0.08

Mechanical Properties

	TYPE 253MA	WNR 1.4835	UNS S30815	AISI 253MA	GRADE 253MA
Tensile Strength(Mpa)	600min	600min	600min	600min	600min
0.2% Yield Strength(Mpa)	310min	310min	310min	310min	310min
Elongation (% in 50mm)	40 min	40 min	40 min	40 min	40 min
Hardness, Brinell (HB)	217 max	217 max	217 max	217 max	217 max
Hardness, Rockwell B	95 max	95 max	95 max	95 max	95 max

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

Corrosion Resistance

- Although not designed for aqueous corrosion resistance the high chromium and nitrogen contents give the grade a pitting resistance approximating that of 316.
- 253MA does however have a high carbon content so is highly susceptible to sensitisation from welding or service exposure.

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Heat Resistance

- **Oxidation** - Excellent resistance to air, at temperatures up to 1150°C. At high temperatures the steel quickly forms a thin, highly adherent and elastic oxide. This oxide gives good protection even under cyclic conditions.
- **Carburisation** - Under oxidising conditions this grade can perform well, but alloys with higher nickel content are preferred if the atmosphere is reducing.
- **Sulphidation** - Good resistance to sulphur-bearing gases in an oxidising atmosphere, even if only traces of oxygen are present. Reducing gases prevent the protective oxide forming. 253MA has high strength at elevated temperatures so is often used for structural and pressure-containing applications at temperatures above about 500°C and up to about 900°C. Its strength at these temperatures is higher than that of alternatives such as Grade 310. 253MA will become sensitised in the temperature range of 425-860°C; this is not a problem for high temperature applications, but will result in reduced aqueous corrosion resistance.

Heat Treatment

- Solution Treatment (Annealing) - Heat to 1050-1150°C and cool rapidly. It is recommended that the material be solution treated after 10-20% cold work to achieve maximum creep strength in service.
- This grade cannot be hardened by thermal treatment.

Welding

- Excellent weldability by all standard fusion methods, using matching filler metals. AS 1554.6 pre-qualifies welding of 253MA with Grade 22.12HT rods or electrodes.
- Grade 309 fillers can be used if lower creep strength can be tolerated. Pure argon shielding gas should be used.

Machining

- As for other austenitic stainless steels, the machining requires sharp tools, slow speeds and heavy feed. This grade has a low sulphur content.

Applications

- Furnace components including burners, retorts, conveyor belts, fans, jigs and baskets, rollers, walking beams, radiant tubes, electric heater elements, refractory anchors, hoods, flues, grates, expansion bellows.
- Petrochemical and refinery tube hangers.



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