

SS 405, Type 405, WNR 1.4002, UNS S40500, AISI 405, Grade 405, AFNOR Z4 CA 13

Introduction :

Aesteiron continues to expand its product line in UNS S40500 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 405	TYPE 405	WNR 1.4002	UNS S40500	AISI 405	GRADE 405	AFNOR Z4 CA 13
Carbon	0.08 max	0.08 max	0.08 max	0.08 max	0.08 max	0.08 max	0.08 max
Manganese	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max
Phosphorus	0.040 max	0.040 max	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	0.030 max	0.030 max
Silicon	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max
Chromium	11.5-14.5	11.5-14.5	11.5-14.5	11.5-14.5	11.5-14.5	11.5-14.5	11.5-14.5
Nickel	0.5max	0.5max	0.5max	0.5max	0.5max	0.5max	0.5max
Aluminum	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3
Iron	Bal	Bal	Bal	Bal	Bal	Bal	Bal

Mechanical Properties

	SS 405	TYPE 405	WNR 1.4002	UNS S40500	AISI 405	GRADE 405	AFNOR Z4 CA 13
Tensile Strength, Mpa(psi)	448 (65000)	448 (65000)	448 (65000)	448 (65000)	448 (65000)	448 (65000)	448 (65000)
0.2% Yield Strength, Mpa(psi)	276 (40000)	276 (40000)	276 (40000)	276 (40000)	276 (40000)	276 (40000)	276 (40000)
Elongation in 2" (50mm), %	25	25	25	25	25	25	25

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 405, Type 405, WNR 1.4002, UNS S40500, AISI 405 Plates
- SS 405, Type 405, WNR 1.4002, UNS S40500, AISI 405 Pipes
- SS 405, Type 405, WNR 1.4002, UNS S40500, AISI 405 Round Bar
- SS 405, Type 405, WNR 1.4002, UNS S40500, AISI 405 Tube
- SS 405, Type 405, WNR 1.4002, UNS S40500, AISI 405 Flanges
- SS 405, Type 405, WNR 1.4002, UNS S40500, AISI 405 Wire
- SS 405, Type 405, WNR 1.4002, UNS S40500, AISI 405 Fittings

Fabrication and Heat Treatment

Annealing

- Grade 405 stainless steel is soaked at 649-760°C (1200-1400°F) and then cooled in air.

Welding

- Shielded fusion and resistance methods are recommended for welding grade 405 stainless steel.
- Oxyacetylene welding is not suitable for this stainless steel grade.
- Hardening of grade 405 stainless steel is controlled by the use of 405 Cb electrodes that contain columbium.
- Ductility of 405 stainless steel is maximized by post weld annealing.

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Forging

- Grade 405 stainless steel is soaked at 817-871°C (1500-1600°F) and the temperature is then increased to 1038-1121°C (1900-2050°F).
- Forging below 816°C (1500°F) is not recommended for this stainless steel grade.
- Forging is followed by air cooling and finally annealing.

Forming

- Usage of forming techniques enable grade 405 stainless steel to be easily spun, drawn and formed.

Machinability

- Standard methods are used to carry out the machinability process for grade 405 stainless steel.

Hardening

- Grade 405 stainless steel can be hardened by soaking at 982-1010°C (1800-1850°F) and then oil quenched.

Applications

- Grade 405 stainless steel is used in quenching racks, annealing boxes, partitions, steam nozzles and various other fabrications that cannot be annealed after welding.



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