

SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409, ASTM 409, Grade 409, AFNOR Z6CT12

Introduction :

Aesteiron continues to expand its product line in UNS S40900 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.

Chemical Composition

	SS 409	TYPE 409	WNR 1.4512	UNS S40900	AISI 409	ASTM 409	GRADE 409	AFNOR Z6CT12
Carbon	0.08max	0.08max	0.08max	0.08max	0.08max	0.08max	0.08max	0.08max
Manganese	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max
Phosphorus	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max
Sulfur	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max	0.045 max
Silicon	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max	1.00 max
Chromium	10.5-11.74	10.5-11.74	10.5-11.74	10.5-11.74	10.5-11.74	10.5-11.74	10.5-11.74	10.5-11.74
Nickel	0.50 max	0.50 max	0.50 max	0.50 max	0.50 max	0.50 max	0.50 max	0.50 max
Iron	Bal	Bal	Bal	Bal	Bal	Bal	Bal	Bal

Mechanical Properties

	SS 409	TYPE 409	WNR 1.4512	UNS S40900	AISI 409	ASTM 409	GRADE 409	AFNOR Z6CT12
Ultimate Tensile Strength, ksi	55 min	55 min	55 min	55 min	55 min	55 min	55 min	55 min
0.2% Offset Yield Strength, ksi	25 min	25 min	25 min	25 min	25 min	25 min	25 min	25 min
Elongation in 2 inches, %	20 min	20 min	20 min	20 min	20 min	20 min	20 min	20 min
Reduction in Area, %	-	-	-	-	-	-	-	-
Hardness, Rockwell B	88 max	88 max	88 max	88 max	88 max	88 max	88 max	88 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

Products Available in forms :

- SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409 Plates
- SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409 Pipes
- SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409 Round Bar
- SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409 Tube
- SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409 Flanges
- SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409 Wire
- SS 409, Type 409, WNR 1.4512, UNS S40900, AISI 409 Fittings

Corrosion Resistance

- Grade 409 stainless steels have excellent resistance to exhaust gas and atmospheric corrosion, superior to that of 410 martensitic grades with 12% chromium and 3CR12.
- However, the corrosion resistance is lower than that of grade 430 steels containing 17% chromium.
- The surface of grade 409 steels is liable to mild corrosion, which limits the usage of steels for decorative purposes.

Heat Resistance

- Grade 409 stainless steels offer scaling resistance at temperatures up to 675°C during continuous operation, and up to 815°C under intermittent conditions.
- These temperatures pertain to specific service environments.

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Heat Treatment

- Annealing of grade 409 steels is carried out at temperatures ranging from 790 to 900°C, followed by air-cooling.
- Thermal treatment does not harden grade 409 steels.

Welding

- Grade 409 steels must be pre-heated to temperatures of 150 to 260°C before welding.
- Although grade 430 and 409 filler rods or electrodes can be used during welding of grade 409 steels, grade 309 electrodes or filler rods are strongly recommended by AS 1554.6.
- Care should be taken to weld grade 409 steels with minimum heat, in order to mitigate grain growth.
- Ductility of the welded products can be improved by annealing post-welding at temperatures of 760 to 815°C.
- However, this is not required for thin welded products. Welding of exhaust tubing of automobiles is carried out without filler rods.

Applications

The typical applications of grade 409 stainless steels are listed below:

- Automotive exhaust tubing
- Catalytic converter systems
- Mufflers



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