Type 422, WNR 1.4935, UNS S42200, AISI 616, Grade 616, ALLOY 422

Introduction :

Stainless Steel 422 is alternative to stainless steel 403. It is harden able martensitic stainless steel which is being widely used for high temperatures up to 1200°F. It is high-alloy steels that exhibit better corrosion resistance than other steels and this is because of the increased chromium content. It is often used in aircraft parts, refineries, thermal pipe plants, high heat components, pharmaceutical industry, oil refineries, textile industries, rotors, nuclear plants, chemical industrries and power industries where high strength ratios is required. It is corrosion resistant to the corrosive action of the atmosphere, fresh water, steam, and a variety of the milder acids and alkalies. It provides good resistance to destructive scaling. It has the highest electrical conductivity and a moderately high embodied cost. It has better strength that of stainless steel 403 at a higher temperature.

Chemical Composition

	SS 422	TYPE 422	WND 1.4935	UNS S42200	AISI 616	GRADE 616	ALLOY 422
Carbon	0.20-0.25	0.20-0.25	0.20-0.25	0.20-0.25	0.20-0.25	0.20-0.25	0.20-0.25
Manganese	1.00max	1.00max	1.00max	1.00max	1.00max	1.00max	1.00max
Molybdenum	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25
Chromium	12.0-14.0	12.0-14.0	12.0-14.0	12.0-14.0	12.0-14.0	12.0-14.0	12.0-14.0
Silicon	1.00max	1.00max	1.00max	1.00max	1.00max	1.00max	1.00max
Sulfur	0.03max	0.03max	0.03max	0.03max	0.03max	0.03max	0.03max
Nickel	0.40-1.00	0.40-1.00	0.40-1.00	0.40-1.00	0.40-1.00	0.40-1.00	0.40-1.00
Tungsten	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25	0.75-1.25
Vanadium	0.20-0.50	0.20-0.50	0.20-0.50	0.20-0.50	0.20-0.50	0.20-0.50	0.20-0.50
Phosphorus	0.04max	0.04max	0.04max	0.04max	0.04max	0.04max	0.04max

Mechanical Properties

	SS 202	WNR 1.4373	UNS S20200	AISI 202	GRADE 202	SUS 202	ASTM 202
Tensile Strength Mpa (min)	897	897	897	897	897	897	897
0.2% Yield Strength Mpa(min)	207	207	207	207	207	207	207
Elongation %	15	15	15	15	15	15	15
Reduction in Area, %	-	-	-	-	-	-	-
Hardness, Rockwell B	95max	95max	95max	95max	95max	95max	95max

Standard Available in forms :

- ASTM A182/ ASME SA182 Stainlees 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 :

- Type 422, WNR 1.4935, UNS S42200 Plates
- Type 422, WNR 1.4935, UNS S42200 Pipes
- Type 422, WNR 1.4935, UNS S42200 Round Bar
- Type 422, WNR 1.4935, UNS S42200 Tube
- Type 422, WNR 1.4935, UNS S42200 Flanges
- Type 422, WNR 1.4935, UNS S42200 Wire
- Type 422, WNR 1.4935, UNS S42200 Fittings

Applications

- Aircraft parts
- Steam and gas turbine components
- High heat components
- Rotors

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