

SS 414, Type 414, WNR 1.4008, UNS S41400, AISI 414, ASTM 414, Grade 414, AFNOR Z4CN13.2M

Introduction :

414 stainless steel, is effectively a 410 type steel with a nickel addition. The nickel addition results in a steel that is tougher than 403/410 grades at similar strength levels. This alloy should be heated for forging to 2100/2200°F (1150/1205°C), then forged. Large forgings in dry lime or ashes and small forgings should be cooled slowly and. Before post-forge annealing parts should be cooled to room temperature. Do not forge below 1650°F (900°C.) To give desired mechanical properties temper at a temperature. At least one hour soak – longer for large parts – and air cool. Tempering between 700/1050°F (370/565°C) may result in lower toughness and corrosion resistance, but depending upon other required properties it may still be necessary to forsake some toughness and corrosion resistance. Experience will be the guide here. For hardening heat to 1800/1950°F (980/1065°C) – soak and oil quench or air cool. Use the high side of the austenitizing temperature If tempering below 700°F (370°C) for the best toughness, and similarly the low side of the austenitizing temperature when tempering above 1100°F (540°C) for best toughness. Grade 414 shows fairly good machinability, but there will be some gall and build up on the cutting edge of the tools.

	SS 414	TYPE 414	WNR 1.4008	UNS S41400	AISI 414	ASTM 414	GRADE 414	AFNOR Z4CN13.2
Carbon	0.15 max	0.15 max	0.15 max	0.15 max	0.15 max	0.15 max	0.15 max	0.15 max
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	0.040 max	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	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	1.00 max
Chromium	11.5-13.5	11.5-13.5	11.5-13.5	11.5-13.5	11.5-13.5	11.5-13.5	11.5-13.5	11.5-13.5
Nickel	1.25-2.50	1.25-2.50	1.25-2.50	1.25-2.50	1.25-2.50	1.25-2.50	1.25-2.50	1.25-2.50

Mechanical Properties

	SS 414	TYPE 414	WNR 1.4008	UNS S41400	AISI 414	ASTM 414	GRADE 414	AFNOR Z4CN13.2
Tensile Strength, (Mpa)psi	1795 (260300)	1795 (260300)	1795 (260300)	1795 (260300)	1795 (260300)	1795 (260300)	1795 (260300)	1795 (260300)
Yield Strength, (Mpa)psi	1031 (146900)	1031 (146900)	1031 (146900)	1031 (146900)	1031 (146900)	1031 (146900)	1031 (146900)	1031 (146900)
Elongation (in 50mm)	15%	15%	15%	15%	15%	15%	15%	15%

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 414, Type 414, WNR 1.4008, UNS S41400, AISI 414 Plates
- SS 414, Type 414, WNR 1.4008, UNS S41400, AISI 414 Pipes
- SS 414, Type 414, WNR 1.4008, UNS S41400, AISI 414 Round Bar
- SS 414, Type 414, WNR 1.4008, UNS S41400, AISI 414 Tube
- SS 414, Type 414, WNR 1.4008, UNS S41400, AISI 414 Flanges
- SS 414, Type 414, WNR 1.4008, UNS S41400, AISI 414 Wire
- SS 414, Type 414, WNR 1.4008, UNS S41400, AISI 414 Fittings



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