



GX2CrNiMoN22-5-3(EN 1.4470) Duplex Stainless Steel

GX2CrNiMoN22-5-3 stainless steel is duplex stainless steel for casting purpose; it's a ferritic-austenitic corrosion resistant casting steel.

GX2CrNiMoN22-5-3 is defined in standard EN 10283 and EN 10213 and ISO 11972, the EN number is 1.4470

EN 10213: 2007 Steel castings for pressure purposes

EN 10283: 2010 Corrosion resistant steel castings

ISO 11972:2015 specifies cast steels for general corrosion-resistant applications.

X2CrNiMoN22-5-3 (EN 1.4462) is similar grade in standard of in EN 10088-3

EN 10088-3 : Stainless steels

GX2CrNiMoN22-5-3 (EN 1.4470) Similar grade:

ASTM A890/A995 Grade 4A; Type 22Cr-5Ni-Mo-N; Casting UNS J92205; ACI CD3MN; Wrought UNS S31803; Wrought grade SS2205; EN 1.4462 X2CrNiMoN22-5-3; SUS 329J3L

GX2CrNiMoN22-5-3Chemical requirements and Mechanical Property

Standard	EN10213	EN10283	ISO 11972	EN 10088-3
Grade	GX2CrNiMoN 22-5-3	GX2CrNiMoN 22-5-3	GX2CrNiMoN 22-5-3	X2CrNiMoN 22-5-3
EN number	1.4470	1.4470	1.4470	1.4462
C max	0.03	0.03	0.03	0.030
Si max	1.00	1.00	1.0	1.0
Mn max	2.00	2.00	2.00	2.00
P max	0.035	0.035	0.035	0.035
S max	0.025	0.025	0.025	0.015
Cr	21.0-23.0	21.0-23.0	21.0-23.0	21.0-23.0
Mo	2.5-3.5	2.5-3.5	2.5-3.5	2.5-3.5
Ni	4.5-6.5	4.5-6.5	4.5-6.5	4.5-6.5
Cu	0.50	-	-	-
N	0.12-0.20	0.12-0.20	0.12-0.20	0.10-0.2
Tensile Mpa,min	420	420	420	450
0.2% proof Mpa, min	600-800	600	650	650-880
Elongation, %,min	20 (+AT)	20 (+AT)	22 (+AT)	25
Impact Kv,J, min	30	30	50	100
Thickness, mm	150	150	150	160
Hardness, HB, max	-	-	-	270



GX2CrNiMoN22-5-3 (EN 1.4470) Heat treatment process: Solution annealing + water quenching (+AT)

Heat to 1120-1150°C for sufficient time to heat casting uniformly to temperature and water quench, or the casting may be furnace cooled to 1010-1050°C prior to water quenching in order to improve corrosion resistance and prevent cracks in complex shapes.

GX2CrNiMoN22-5-3 (EN 1.4470) BENEFITS

- Corrosion and pitting resistance
- Better for abrasive applications
- Higher strength than standard stainless steel
- Improved ductility and weldability
- Better resistance to embrittlement



Mechanical properties

ReH Minimum yield strength / Mindestwert der oberen Streckgrenze / Limite d elasticite minimale

Rm Tensile strength / Zugfestigkeit / Resistance a la traction

A Minimum elongation / Mindestwert der Bruchdehnung / Allongement minimal

J Notch impact test / Kerbschlagbiegeversuch / Essai de flexion par choc

Heat treatment conditions

- +A Soft annealed
- +AC Annealed to achieve spheroidization of the carbides
- +AR As rolled
- +AT Solution annealed
- +C Cold drawn / hard
- +CR Cold rolled
- +FP Treated to ferrite-pearlite structure and hardness range
- +I Isothermal annealing
- +LC Cold drawn / soft
- +M Thermo mechanical rolling
- +N Normalized
- +NT Normalized and tempered
- +P Precipitation hardened
- +PE Peeled
- +QA Air quenched and tempered
- +QL Liquid quenched and tempered
- +QT Quenched and tempered
- +S Treated to improve shearability
- +SH As rolled and turned
- +SR Cold drawn and stress relieved



- +T Tempered
- +TH Treated to hardness range
- +WW Warm worked
- +U Untreated

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What makes Casting Quality the best?

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Our engineers are more than just designers....they're pioneers. Our team use CAD/CAM to do the simulation of casting parts .Through the advanced technology, we can know the weight and structure. We also visited so many factories to know their difference and improve our products every year.

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We're obsessed with quality. Casting Quality constantly strives to exceed our customers' expectations in durability and performance. In fact, we will control the whole process from the original material to the finished parts , include the technology .Uniquely-designed Quality Control System focuses on ensuring four product goals: 1) Eligible Chemistry , 2) Hardness 3) Property and 4) Affordable Pricing. The result is the best casting products value in the industry.

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