Data sheet

DIN EN 10088-3

Grade AISI S32304 / EN 1.4362

The material 1.4362 / AISI S32304 is an austenitic-ferritic duplex steel that has a high acid resistance. It serves as a substitute for the austenitic material 1.4404 / AISI 316L. Due to its two-phase structure, stainless steel 1.4362 / AISI S32304 is strongly superior to austenitic stainless steels with regard to intergranular corrosion and stress corrosion cracking. The material has very low magnetisability and can be used for welding and forging. However, stainless steel 1.4362 / AISI S32304 is only conditionally suitable for cold forming due to its higher basic strength..

Chemical composition (% by mass according to DIN EN 10088-3 for EN 1.4362)

C	Si	Mn	P	S	N	Cr	Cu	Mo	Ni	Ti	Other
≤ 0,03	≤ 1,00	≤ 2,00	≤ 0,035	≤ 0,015	0,05 – 0,20	22,0 – 24,0	0,10 – 0,60	0,10 – 0,60	3,5 – 5,5	—	—

Specifications

EN material number:	1.4362
EN short name:	X2CrNiN23-4
EN standard:	10088-3
AISI:	S32304 *
AFNOR:	Z2CN23-04AZ *
SIS:	2327 *
Structure Class:	Duplex

Physical properties

Magnetizability:	low
Density (kg/dm³):	7.8
Thermal conductivity (at up to 20°C):	15
Electronic resistance at room temperature (in Ω mm²/m):	0.80

Possible areas of application

architecture
automotive industry
container construction
construction industry
chemical industry
mechanical engineering
and more

Mechanical properties at room temperature in solution annealed condition (according to EN 10088-3 for EN 1.4362)

Ø	Hardness	Yield strength		Tensile strength	Elongation
in mm	in HB	$R_{p0,2}$ in Mpa	$R_{p1,0}$ in Mpa	R_m in Mpa	A in % (longitudinal)
≤ 160	≤ 260	≤ 400	-	600-830	25
≤ 160	≤ 260	≤ 400	-	600-830	100

Heat treatment and hot forming

Solution heat treatment (cooling by air or water):	950-1050 °C
Hot forming (cooling by air):	1150-950 °C

Welding

The good welding properties of duplex steel AISI S32304 / 1.4362 allow its use with all common welding processes. Heat treatment is not necessary after welding.
If a filler metal is required, AISI 318LN / 1.4462 should be selected.

(* in accordance with)

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If you have further questions about this or any other product, please contact our team at +49 2263-9240-0 or email wire@agst.de

Please note:
The information given in this data sheet has been compiled to the best of our knowledge and is based on the current version of the relevant standard.
It is considered for reference only and we assume no liability for any errors.

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