1.8515 | 31CrMo12 — Nitriding steel

Summary

The material 1.8515 is a nitriding steel which is suitable for higher nitriding work.

This material quality is often used in the automotive industry and in mechanical engineering. Especially when surfaces require high wear resistance.

Chemical Analysis

	C	Si	Mn	P	S	Cr	Mo
min.	0,28	-	0,40	-	-	2,80	0,30
max.	0,35	0,40	0,70	0,025	0,035	3,30	0,50

Properties

Weldability: not weldable

Machinability: good

Toughness: good

Corrosion resistance: low

Wear resistance: very good

International designation

DIN EN 10085	1.8515 31CrMo12
SS	2240
AFNOR	30CD12
B.S.	722M24

Mech. Properties at Room temperature (Longitudinal) Forged Material

Re Yield point	A Elongation	KV Impact Strength	Rm Tensile Strength	Hardness
min. 675 N/mm^2	min. 10 %	min. 25 J	880-1180 N/mm^2	276-339 HB

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Qualitäts-und Edelstähle

1.8515
31CrMo12

Special features

We store the material 1.8515 tempered in a particularly excellent quality.

Our stock material 1.8515 is US approved. The smelting rate is min. 3.5.

Physical Properties

Density in kg/dm^3	7,73
Electrical resistance at 20°C in (Ω mm^2)/m	0,19
Elasticity modus (10^3 MPa)	210
Thermal conductivity at 20°C in W/(m K)	42
Specific heat capacity at 20°C in J/(kg K)	430

Applications

This material is found in general mechanical engineering as well as in the automotive industry or in extrusion technology.

Processing

Nitriding	possible
Machinability	possible

Areas of applications

1.8515 is used in components that have a large cross-section. Other applications include drills, gears, cylinders, extruders, racks and connecting rods.

Heat treatment

Soft annealing: The material 1.8515 is annealed at temperatures of 650°C - 700°C. This is followed by a slow cooling. This gives a maximum hardness (Brinell) 248.

Heat treatment: The tempering takes place at 870°C - 930°C, followed by quenching in oil.

Tempering: Temperatures from 580°C to 700°C are required to start the engine.

Nitriding: The material 1.8515 is nitrided at temperatures of 480°C - 570°C.

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Hot forming

A hot forming is possible between 1100ºC - 900ºC (for example Forging)

Delivery options

We saw the material to your exact measurements.

Request/questions

Do you have a request, or have a question about the material 1.8515?
Contact us!. Our competent staff will gladly help you.

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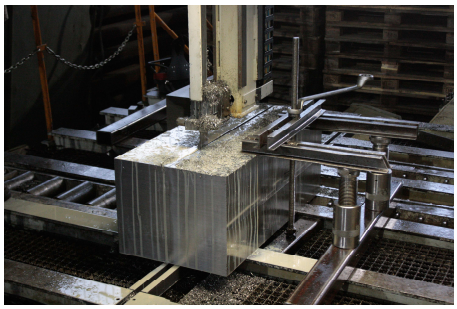

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