THROUGH HARDENING BEARING STEEL

EN31 / 52100 100Cr6 / 1.3505 / SUJ2

Through hardening bearing steel

1 % C, 1.5 % Cr	60–66 HRC	Ø400 mm	EN 10204 3.1
Through hardening	Hardened and tempered	Max bar	Every lot

GRADE AND STANDARDS

Item	Detail
Designations	EN31 / 52100 / 100Cr6 / 1.3505 / SUJ2 / 535A99 / 100C6
Standards	ASTM A295; DIN 17230; JIS G4805; BS 970
Delivery condition	Spheroidise annealed max 207 HB, or Q+T
Melt route	EAF + LF + VD; ESR or VIM + VAR for bearing and aerospace grades
Typical use	Ball and roller bearings, gauges, rolls, ball screws, pump plungers
Certificate	EN 10204 3.1 with chemistry, hardness and inclusion rating

CHEMICAL COMPOSITION (% BY MASS)

C	Si	Mn	P	S	Cr	Mo	Cu
0.93–1.05	0.15–0.35	0.25–0.45	≤0.025	≤0.015	1.35–1.60	≤0.10	≤0.30

MECHANICAL PROPERTIES

Condition	Hardness	Tensile MPa	Use
Spheroidise annealed	≤207 HB	≤700	Machining
Hardened, temper 160 C	62–66 HRC	—	Bearings, gauges
Hardened, temper 250 C	58–62 HRC	2200–2500	Rolls, high-load parts
Hardened, temper 400 C	52–56 HRC	1900–2100	Toughness over hardness

SUPPLY RANGE

Form	Size range	Condition
Rolled round bar	Ø10–130 mm	Spheroidise annealed
Forged round bar	Ø130–400 mm	Spheroidise annealed
Wire rod	Ø5.5–20 mm	Annealed
Tube / ring blanks	On drawing	Annealed

INSPECTION AND CERTIFICATION

- EN 10204 3.1 with chemistry, hardness and inclusion rating (ASTM E45 / DIN 50602)
- Decarburisation depth - critical for a rolling surface
- Spheroidisation rating on annealed bar
- Ultrasonic inspection to SEP 1921 for bar above 80 mm
- Melt route declared where ESR or VAR is specified

ORDERING INFORMATION

- Grade and standard
- Form and size - thickness x width x length, or diameter and cut length
- Quantity in pieces or kilograms
- Delivery condition and hardness window
- Certificate and inspection requirements

Hunan Fushun Metal Co., Ltd.
No. 1914-1919, Building C2, Yongsheng Commercial Plaza,
No. 222 Labor East Road, Changsha, Hunan, China
T +86-731-89903933 | M +86 178 7358 1838 (WhatsApp)
info@fushunspecialsteel.com | www.fushunspecialsteel.com

EN 10204 3.1 mill certificate with every shipment
Chemistry · mechanical properties · test results · heat number

Hardness map and ultrasonic inspection on request.
Values are typical for the grade; the certificate of the actual heat governs.