

# STEEL FOR BEARINGS



**Rodacciai**<sup>®</sup>

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## ALLOY STEELS

### High-performance steel for durable and reliable bearings

Investing in higher-quality materials designed for bearing manufacturers ensures long-term reliability and performance of equipment, ultimately saving money and avoiding costly repairs and premature failure in the long-term.

Based on this, over the years, Rodacciai has implemented a range of advanced bearing steels utilizing high-carbon steel with a 1.5% chromium content, ensuring exceptional strength and resistance to friction wear.

The most commonly used material for load-bearing components in ball bearings and roller bearings is **100Cr6 (SAE 52100)**.

This material can be customized to meet the specific requirements of the bearing industry, offering versatile solutions across various applications.

### Steel according to the main precision bearing manufacturers requirements

#### PRODUCT FEATURES



HIGH  
FATIGUE  
STRENGTH

HIGH-QUALITY  
MATERIALS TO ENSURE  
LONG-TERM RELIABILITY  
AND PERFORMANCE  
OF EQUIPMENTS

HIGHER CARBON  
AND CHROMIUM CONTENT  
FOR IMPROVED STRENGTH,  
DURABILITY,  
AND WEAR RESISTANCE

#### PRODUCT RANGE

Rodacciai offers to bearings producers a complete range of sizes:

STEEL IN BARS	STEEL IN WIRE
3 – 100 (mm)	2 – 34 (mm)

# SPECIAL STEELS FOR BEARINGS



STANDARD REFERENCE:  
EN ISO 683-17: 2023

## RODACCIAI REFERENCES AND COMPARABLE STANDARDS

EUROPE		ITALY	GERMANY		FRANCE	UK	USA
EN ISO 683-17: 2000		3097 - 75	DIN 17230 - 80		NF A 35-565-90	(BS 970 pt.3-96)	ASTM A 29
Grade	N°		Werkstoff	N°			
100Cr6	1.3505	100Cr6	100Cr6	1.3505	100C6	2S 135	52100

## CHEMICAL COMPOSITION (CAST ANALYSIS) (%)

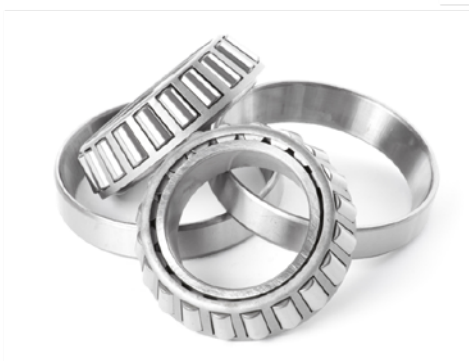
C	Si	Mn	P / max	S / max	Cr	Mo / max	Al / max	Cu / max	O / max	Ni / max	Ca / max	Ti / max
0,93÷1,05	0,15÷0,35	0,25÷0,45	0,025	0,015	1,35÷1,60	0,10	0,050	0,30	0,0012	0,25	0,0015	0,03

\* Other S content range are available to improve machinability (upon request)

## MECHANICAL PROPERTIES

Size mm	HB max condition	
	Annealed (+AC)	Cold Drawn + Annealed (+AC +C)*
<16	207	241
>16 ≤40	207	241
>40 ≤100	207	241
>100 ≤160	207	241
>160 ≤250	207	241

\* The hardness of the wire for the manufacture of needle roller bearings (with the "needles") may increase up to 331 HB.  
The maximum value of Vickers hardness (HV) should be agreed at the time of inquiry and order.



MARK RODACCIAI

**100Cr6**

**100CR6**

[www.rodacciai.com](http://www.rodacciai.com)

**Rodacciai**

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