

JB

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JB/T 10705-2007

Rolling bearings - Bearings for wind turbine generators

滚动轴承 风力发电机轴承

(English Translation)

Issued on: March 6, 2007

Implemented on: September 1, 2007

**Issued by: Ministry of Industry and Information Technology of the
People's Republic of China**

Table of Contents

Content	
Foreword I	
1 Scope	
2 Normative References	
3 Symbols	
4 Coding Methods for Bearings	
4.1 Coding Method for Yaw and Blade Slewing Bearings	
4.2 Coding Methods for Drive System Bearings	
4.3 Special Codes	
5 Structure Type and Overall Dimension	
5.1 Structure Type of Yaw and Blade Slewing Bearings	
5.2 Structure Type of Drive System Bearings	
5.3 Overall Dimension of Yaw and Blade Slewing Bearings	
5.4 Overall Dimension of Drive System Bearings	
6 Technical Requirements	
6.1 Material and Heat Treatment	
6.2 Ferrule Gear of Yaw and Blade Slewing Bearings	
6.3 Tolerance	
6.4 Surface Roughness	
6.5 Clearance	
6.6 Start Friction Moment	
6.7 Lubrication Hole	
6.8 Seal	
6.9 Anticorrosive Treatment	
6.10 Other Requirements	
7 Measurement Methods	
7.1 Yaw and Blade Slewing Bearings	
7.2 Drive System Bearings	
8 Inspection Rules	
8.1 Yaw and Blade Slewing Bearings	
8.2 Drive System Bearing	
9 Mark	

- 10 Rustproof and Packaging.
- 11 Transport and Storage
 - 11.1 Yaw and Blade Slewing Bearings
 - 11.2 Drive System Bearings
- Appendix A
- Appendix B

1 Scope

This Standard specifies structure types, coding methods, overall dimensions, technical requirements, measurement methods, inspection rules, marking and packaging of yaw and blade slewing bearings and drive system bearings of wind power generator set.

This Standard is applicable to the production inspection as well as type selection and acceptance by users for yaw and blade slewing bearings and drive system bearings of wind power generator set.

2 Normative References

The following documents contain provisions which, through reference in this text, constitute provisions of this Standard. For dated references, subsequent amendments to (excluding any amendments), or revisions of, are not applicable to this standard; however, parties who come to an agreement according to this Standard are encouraged to research if the latest editions of these references are applicable to this Standard. For any undated references, the latest edition of the document referred to applies.

BG/T 229-1994 Metallic Materials - Charpy Notch Impact Test (Eqv ISO 148:1983)

GB/T 272-1993 Rolling Bearings - Coding Method.

GB/T 273.2-2006 Rolling Bearings-Thrust Bearings - General Plan for Overall Dimension (ISO 104: 2002, IDT)

GB/T 273.3-1999 Rolling Bearings-Radial Bearings General Plan for Overall Dimension (Eqv ISO 15:1998)

GB/T 307.1-2005 Rolling Bearings-Radial Bearings-Tolerance (ISO 492:2002, MOD)

GB/T 307.2-2005 Rolling Bearings-Principles and Methods for Measurement and Inspection (ISO 1132-2: 2001, Rolling Bearings - Tolerances-Part 1: Measurement and Gauging Principles and Methods, MOD).

GB/T 307.3-2005 Rolling Bearings-General Technical Regulations

GB/T 307.4-2002 Rolling Bearings-Thrust Bearings - Tolerance (ISO 199:1997, IDT) GB/T

1357-1987 Involute Cylindrical Gears-Modules

GB/T 3077-1999 Alloy Structure Steels (Neq DIN EN 10083-1: 199)

GB/T 4604-2006 Rolling Bearings-Radial Clearance (ISO 5753:1991, MOD)

GB/T 7736-2001 Ultrasonic Inspecting Method for Macro-structure and Imperfection of Steel

GB/T 7811-1999 Rolling Bearings - Symbols for Quantities

GB/T 8597-2003 Rolling Bearing - Rustproof Packaging

GB/T 8642-2002 Thermal Spraying-Measurement for Tensile Bonding Strength (ISO 14916:1999, MOD)

GB/T 9793-1997 Metallic and Other Inorganic Coating-Thermal Spraying of Zinc, Aluminum and Their Alloy (Eqv ISO 2063:1991)

GB/T 10095.2-2001 Involute Cylindrical Gear-Accuracy - Part 1: Definition and Allowable Values of Deviation Relevant to Corresponding Flanks of Gear Teeth (Idt ISO 1328-1:1997)

GB/T 10095.2-2001 Involute Cylindrical Gear -Accuracy-Part 2: Definition and Allowable Values of Deviations Relevant to Radial Composite Deviations and Runout Information

GB/T 11374-1989 Nondestructive Methods for Measurement of Thermal Spraying Coating Thickness (Neq ISO 2064:1980)

GB/T 18254-2002 High-carbon Chromium Bearing Steel

JB/T 1255-2001 Specifications for Heat-treatment of Rolling Bearing Parts Made from High Carbon Chromium Steel

JB/T 2974-2004 Rolling Bearings-Identification Code-Supplemental Regulations

JB/T 3574-1997 Rolling Bearings-Product Mark

JB/T 8427-1996 Selection and Application Guide for Thermal Spraying Coating of Zinc, Aluminum and Their Alloy for Steel Structure Corrosion Protection

JB/T 8921-1999 Rolling Bearings and Commercial Parts Inspection Rules

JB/T 10471-2004 Rolling Bearings-Slewing Bearings

ZJB J11 038-1993 Military High-Carbon Chromium Bearing Steel Rolling Bearing Parts Heat Treatment Quality Requirements

HG/T 2811-1996 Rubber Materials for Rotary Shaft Lip Seals

3 Symbols

The following symbols as well as those specified in GB/T 7811 are applicable to this Standard.

b: gear width;

D: bearing outside diameter; outer periphery of outer ring diameter of bearings with external gear;

Da: addendum circle diameter of outer gear;

Dpw: center circle diameter of rolling element;

Dw: rolling element diameter;

D1: center circle diameter of installation hole of outer ring;

d: inside diameter of bearings; or surface diameter of inner ring internal column for bearing with internal gear;

da :addendum circle diameter of internal gear;

dn: installation hole diameter;

d1: center circle diameter of installation hole of inner ring;

Fria: radial syntheses runout of inner gear to raceway;

Frea: radial syntheses runout of external gear to raceway;

H: ferrule width of bearing without gear;

h: height difference between inner ring top surface and outer ring top surface;.

m: modulus;

n: number of installation holes;

n1: number of single-row oil holes;

T: bearing width;

x: gear addendum modification factor;

z: number of gears;

*Ds: bearing deviation of a single outside diameter;

*ds: bearing deviation of a single bore diameter;

*Ts: bearing deviation of a single width.