

JIS

JAPANESE INDUSTRIAL STANDARD

Eyenuts

JIS B 1169—1994

Translated and Published

by

Japanese Standards Association

Printed in Japan

AVA Documents
Document Sharing Hub

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

Copyrighted material

JAPANESE INDUSTRIAL STANDARD

J I S

Eyenuts

B 1169-1994

1. Scope This Japanese Industrial Standard specifies eyenuts for general lifting work of machinery (hereafter referred to as "nuts").

Remarks: The standards cited in this Standard are shown in Attached Table 2.

2. Working load limit The working load limit for one nut vertical lifting and 45 degree lifting ⁽¹⁾ by two nuts shall be as indicated in Attached Table 1.

Note ⁽¹⁾ In case of 45 degree lifting, the working load limit shall be applicable when the bearing surfaces of nut closely contact with the base finished with spot facing and the direction of the rings of two nuts are in the same plane as indicated in the figure in Attached Table 1.

3. Mechanical properties

3.1 Proof load When the nut is tested according to 10.1, it shall not break with or under the proof load given in Table 1, nor produce a permanent set of 0.5% or over on the portion of the ring.

Table 1. Proof load

Unit: kN

Designation of screw thread	M8	M10	M12	M16	M20	M24	M30
Proof load ⁽²⁾	2.35	4.41	6.47	13.24	18.54	27.95	44.13

Designation of screw thread	M36	M42	M48	M64	M80 × 6
Proof load ⁽²⁾	67.67	100.0	132.4	265	441

Note ⁽²⁾ The proof load shall be three times the working load limit.

3.2 Hardness When tested according to 10.2, the hardness shall be of 62HRB to 88HRB.

Further, the surface of nut shall not have remarkable decarburization.

3.3 Microstructure When tested according to 10.3, the microstructure shall be in the normal form free from banded ferrite and other defects, and the grain size number shall be No. 5 or over specified in JIS G 0551.

4. Shape and dimensions The shape and dimensions of the nuts shall be as indicated in Attached Table 1.

5. Screw thread The screw thread on the nut shall be as indicated in Table 2.

Table 2. Screw thread

Designation of screw thread	Screw thread	
	Kind	Tolerance class
M8 to M64	Conform to JIS B 0205	6H or quality 2 specified in JIS B 0209
M80 × 6	Conform to JIS B 0207	6H or quality 2 specified in JIS B 0211

Remarks: The accuracy of screw thread hot-dip plated shall be subject to the agreement between the purchaser and manufacturer.

6. Appearance The surface roughness of nuts shall conform to $25 \mu mR_y$ of JIS B 0601 for the bearing surface and screw thread portion, and to $50 \mu mR_y$ of the same standard for the other portions, and be free from harmful cracks, flaws, burrs, rust and other surface defects in use.

Further, unless otherwise specified, the criteria of permissible surface defects should preferably conform to JIS B 1042.

7. Material The material of nuts shall be of SS400 ⁽³⁾ in JIS G 3101, or S17C or S20C in JIS G 4051.

Note ⁽³⁾ SS400 used for the nuts shall be of killed steel, and the value of P shall be not more than 0.040%, the value of S be not more than 0.045%, according to ladle analysis.

8. Method of manufacture The manufacture of nuts shall be first forged into the required shape and after normalizing at the temperature given in Table 3, subjected to the machining work.

Table 3. Normalizing temperature

Material	Normalizing temperature
SS400	Air cooling at 870°C to 920°C
S17C	
S20C	

9. Surface treatment With the exception of parts where have been machined, the surface of the nuts shall be left as forged or shot blasted, and when plating or other surface treatment is required, it shall be so specified.

As a rule, electroplated nuts shall be subjected to the brittleness removal treatment.