

JIS

JAPANESE INDUSTRIAL STANDARD

Pulleys for belt conveyors

JIS B 8814—1992

Translated and Published

by

Japanese Standards Association

Printed in Japan

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Pulleys for belt conveyors

B 8814-1992

1. Scope

This Japanese Industrial Standard specifies the pulleys for stationary type belt conveyors (hereafter referred to as the "pulleys") to be used mainly for transportation of loose bulk materials (such as ores, muds and sands, coal, cement and cereals). However, such as motor pulleys and magnetic pulleys are excluded.

Remarks 1. The applicable Standards to this Standard are the following:

JIS B 0140-Glossary of Terms Relating to Conveyors (Part 1 Kinds of Conveyors)

JIS B 0141-Glossary of Terms Relating to Conveyors (Part 2 Conveyor Parts and Accessories)

2. The Corresponding International Standard equivalent to this Standard is as given in the following:

ISO 1536-1975 Continuous mechanical handling equipment for loose bulk materials - Troughed belt conveyors (other than portable conveyors)
- Belt pulleys

2. Definitions

For the purposes of this Standard, the following definitions apply, and others are in accordance with JIS B 0140 and JIS B 0141.

- (1) contact angle of belt An angle of the section of the conveyor belt (hereafter referred to as the "belt", being in contact with the pulley in respect to the center of the pulley.
- (2) runout on outside diameter of pulley The rotational runout on outside diameter in respect to the center of pulley shaft. This includes the parallelism also.
- (3) difference between the pulley outside diameters The difference between the right and left diameters being generated in the case where the outer cylinder pulley has become a tapered shape.
- (4) distance between the centers of bearings The distance between the installation centers of the right and left bearings.

3. Grades

The grades of the pulleys shall be the two grades of A and B according to the differences of pulley outside diameters and the runouts on outside diameter of pulley, and be in accordance with Table 1.

Table 1. Grades of pulleys

Type of belt	Contact angle	Grades	
		A	B
Strength of canvas 15 kN/cm or over and steel chord	120° or over	Overall speeds	—
	60° or over to and excl. 120°	Speed 4.17 m/s or over	Speed under 4.17 m/s
	Under 60°	—	Overall speeds
Strength of canvas under 15 kN/cm	120° or over	Speed 4.17 m/s or over	Speed under 4.17 m/s
	60° or over to and excl. 120°	—	Overall speeds
	Under 60°	—	Overall speeds

4. Qualities

The outer cylinder part of the pulleys shall be free from harmful eccentricity and uneven wall thickness.

In addition, the performances, where it has support by bearings, shall be smooth on revolution of pulley, and be excellent in balance and circularity.

5. Shapes and construction

The pulley shall be that of a cylindrical shape which conducts the driving and guidance of a belt having a contact angle in respect to the belt, consisting of an outer cylinder, end plates and a shaft.

The pulley shall be robust against the tension and driving torque of the belt being loaded to the pulley and be endurable sufficiently in use.

An example of the construction shall be indicated in Fig. 1.

Fig. 1. Construction of pulley

