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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

Translation

ISO RECOMMENDATION

R 2109

CONTINUOUS MECHANICAL HANDLING EQUIPMENT

LIGHT DUTY BELT CONVEYORS

FOR LOOSE BULK MATERIALS

1st EDITION

October 1971

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 2109, *Continuous mechanical handling equipment – Light duty belt conveyors for loose bulk materials,* was drawn up by Technical Committee ISO/TC 101, *Continuous mechanical handling equipment,* the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led to the adoption of Draft ISO Recommendation No. 2109, which was circulated to all the ISO Member Bodies for enquiry in October 1970.

The Draft was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	Ireland	Thailand
Belgium	Japan	Turkey
Czechoslovakia	Netherlands	U.A.R.
France	South Africa, Rep. of	United Kingdom
Germany	Spain	U.S.A.
India	Sweden	U.S.S.R.

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

FOREWORD

Troughed belt conveyors (other than portable conveyors) for loose bulk materials form the subject of the three following ISO Recommendations :

ISO/R 1535, *Belts*

ISO/R 1536, *Belt pulleys*

ISO/R 1537, *Idlers*

Conveyors which are the concern of this ISO Recommendation differ from the above-mentioned conveyors by their light idlers, simplified bearings, lighter spindles, etc.

Other reference :

ISO Recommendation R 251, *Widths and lengths of conveyor belts.*

ISO Recommendation | R 2109 | October 1971

CONTINUOUS MECHANICAL HANDLING EQUIPMENT

LIGHT DUTY BELT CONVEYORS FOR LOOSE BULK MATERIALS

1. SCOPE

This ISO Recommendation lays down the main dimensions of belts, idlers and pulleys used for the various types of light duty belt conveyors for loose bulk materials.

2. FIELD OF APPLICATION

This ISO Recommendation applies to light duty belt conveyors for loose bulk materials. It does not apply to either portable and mobile conveyors, or mining conveyors.

3. SPECIFICATIONS

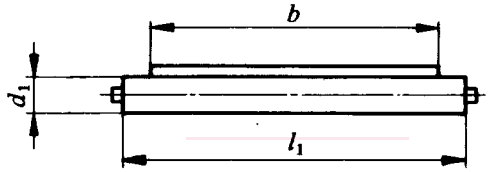

FIGURE 1 – **Flat belt (one idler)**

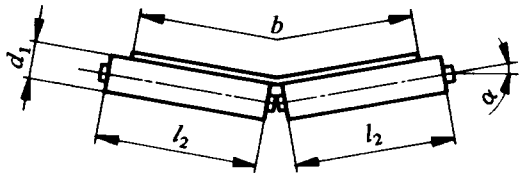

FIGURE 2 – **Troughed belt (with two roller idlers)**

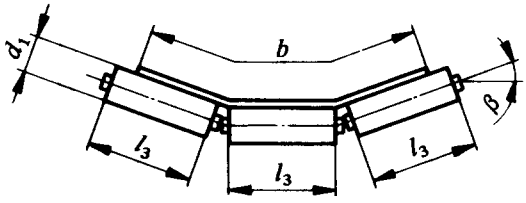

FIGURE 3 – **Troughed belt (with three roller idlers)**

3.1 Carrying idlers

3.1.1 *Length for given belt widths*

Dimensions in millimetres

b	300	400	500	650	800	1000
l_1	380	480/500	600	750	950	1150
l_2	200	250	315	380	480/465	600
l_3	–	–	200	250	315	380

3.1.2 *Nominal diameter*

Dimensions in millimetres

d_1*	63.5	(76.1)	88.9	(101.6)	108

* Preferred dimensions are shown without parentheses.

3.1.3 *Angle of inclination of side idlers*

Values in degrees

α	15	20	–	–	–	–
β	–	20	25	30	35	45

3.1.4 *Gap between idlers.* Where there is a chance of the belt being pinched between the idler rollers, the gap between the rollers should not exceed 10 mm.

3.2 Pulleys

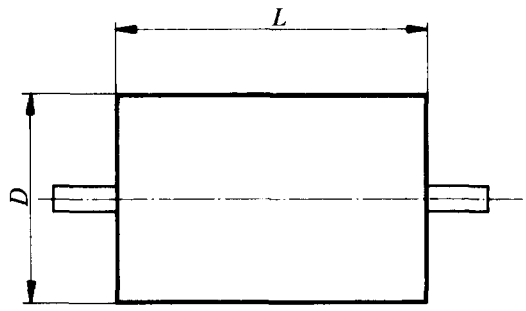

FIGURE 4 – **Pulley**

3.2.1 *Nominal diameter*

Dimensions in millimetres

D*	160	200	(215)	250	315	400	500	630	800

* Preferred dimensions are shown without parentheses.

This table does not apply to motorized pulleys or geared pulleys.

3.2.2 *Manufacture.* The thickness of any lagging is to be excluded when determining nominal diameters.

The pulley surface in contact with the belt should preferably be flat, but may be crowned.

In the case of crowned pulleys, the nominal diameter is the maximum diameter.

The amount of crowning should be agreed in consultation with the belt manufacturer.

The pulleys may be made from the standard sizes of available tubes which are nearest to the nominal diameters.

3.2.3 *Length.* The length L of the pulleys is the same as the length l_1.