
**Steel cord conveyor belts —
Part 2:
Preferred belt types**

*Courroies transporteuses à câbles d'acier —
Partie 2: Types de courroies recommandées*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts*.

This second edition cancels and replaces the first edition (ISO 15236-2:2004), which has been technically revised.

A list of all the parts in the ISO 15236 series can be found on the ISO website.

Introduction

Steel cord conveyor belts are mainly long belts which are manufactured by joining several delivery lengths on the site. To achieve joints with a high dynamic capability from belts supplied by various manufacturers, it is necessary to standardize some features, e.g. thickness of carcass or cord pitch and cord diameter.

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Steel cord conveyor belts —

Part 2: Preferred belt types

1 Scope

This document specifies preferred types of conveyor belts with steel cords in the longitudinal direction as reinforcement. The belt type series in this document are based on the general requirements for construction given in ISO 15236-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition indicated applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15236-1:2016, *Steel cord conveyor belts — Part 1: Design, dimensions and mechanical requirements for conveyor belts for general use*

ISO 15236-4, *Steel cord conveyor belts — Part 4: Vulcanized belt joints*

3 Terms and definitions

ISO 15236-2:2017

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Symbols and units

For the purposes of this document, the symbols and the units given in [Table 1](#) apply.

Table 1 — Symbols and units

Symbol	Explanation	Unit
B	Belt width	mm
F_{bs}	Breaking strength of the cord taken from the cured belt	kN
K_N	Nominal breaking strength per width of belt	N/mm
b_K	Calculated edge width	mm
d	Cord diameter	mm
n	Number of cords	—
s	Cover thickness	mm
s_6	Carcass thickness	mm

Table 1 (continued)

Symbol	Explanation	Unit
t	Cord spacing/pitch	mm
min	Minimum value	—
max	Maximum value	—

5 General remarks

The belt types described in this document are a selection out of the unlimited number of possible constructions; belts of the types A and B have been manufactured and installed in large quantities.

It is the general conception of these belt types that belts of a certain nominal breaking strength have equal cords and cord pitches or at least equal thickness of the carcass.

The requirements regarding belt design, i.e. cord diameter and cord pitch, depend on the mode of joint that will be applied. In accordance with ISO 15236-4, there are three types of vulcanized joints:

- interlaced stepped joints;
- plain stepped joints;
- finger joints.

For high performance stepped joints, it is essential that the belts to be joined have equal cord pitch and cord diameter. For belts to be joined by finger joints, the cord pitch and cord diameter are of less importance; what matters is a similar thickness of the carcass. In Tables 2, 3, 4 and 5, therefore, cord diameter, cord pitch and number of cords are specified only for those types which are usually joined by stepped joints, i.e. belt types A1, A2 and B2.

The cord numbers given in Tables 2, 3 and 5 are for guidance only. They result from Formula (1):

$$n_{\min} = \frac{K_N \times B}{F_{\text{bs}} \times 1000} \quad (1)$$

and from the requirement that the edge width shall be not larger than 40 mm and not smaller than 15 mm, i.e.

$$15 \leq b_k \leq 40$$

A higher number of cords as well as a smaller number of cords can be applied provided that the requirements for minimum breaking strength specified in ISO 15236-1 and ISO 15236-4 are met. The belt breaking strengths are calculated by Formula (2):

$$K_N = \frac{F_{\text{bs}} \times n \times 1000}{B} \quad (2)$$

For the purposes of this document, the symbols and units given in Table 1 apply.

6 Belt types A

Belt types A shall be manufactured with steel cords where the individual wires have been zinc coated by a hot dip process. Requirements for belt types A1 and A2 shall be as given in Tables 2 and 3, respectively.

NOTE Belt types A are designed for interlaced stepped belt joints with numbers of steps between 1 and 4. The t/d ratio of the A2 belt types is somewhat lower than that of the belt types A1 resulting in thinner cords for comparable tensile strengths and in most cases a higher number of steps within the joint.

Table 2 — Requirements for belt types A1

Type of belt	Unit	500	630	800	1000	1250	1400	1600	1800	2000	2250	2500	2800	3150	3500	4000	4500	5000	5400
Min. breaking strength K_N min.	N/mm	500	630	800	1000	1250	1400	1600	1800	2000	2250	2500	2800	3150	3500	4000	4500	5000	5400
Max. cord diameter d_{max} .	mm	3,0	3,0	3,7	4,2	4,9	5,0	5,6	5,6	5,6	5,6	7,2	7,2	8,1	8,6	8,9	9,7	10,9	11,3
Min. breaking load of the cord F_{bs} min.	kN	7,6	7,6	10,3	12,9	18,4	20,6	26,2	25,5	25,5	26,2	39,7	39,7	50,0	55,5	63,5	75,0	90,3	96,0
Cord pitch, t	mm	14,0	11,0	12,0	12,0	14,0	14,0	15,0	13,5	12,0	11,0	15,0	13,5	15,0	15,0	15,0	16,0	17,0	17,0
Min. thickness of covers s_{min} .	mm	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	4,0	5,0	5,0	5,5	6,0	6,5	7,0	7,5	8,0
Belt width B in mm	Tolerance in mm	Number of cords, n																	
500	+10/-5	33	42	39	39	34	34	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
650	+10/-7	44	54	51	51	45	45	41	46	52	56	41	46	41	41	41	39	36	N/A
800	+10/-8	54	68	64	63	55	55	50	57	64	69	51	57	51	51	51	48	45	45
1000	±10	68	84	80	80	68	68	63	71	80	86	63	71	63	64	63	60	56	57
1200	±10	84	107	97	97	82	82	76	85	96	104	76	85	76	76	76	72	67	68
1400	±12	96	124	114	113	97	97	90	100	112	122	89	99	89	89	89	84	79	79
1600	±12	111	142	130	130	111	111	103	114	129	140	102	114	102	102	102	96	90	90
1800	±14	125	160	147	147	125	125	116	129	145	159	116	128	116	116	116	108	102	102
2000	±14	139	177	164	163	140	139	130	144	162	177	129	143	129	129	129	121	114	114
2200	±15	153	195	180	180	154	154	143	159	179	195	142	158	142	142	142	133	126	126
2400	±15	167	213	197	197	168	168	156	174	195	213	156	173	156	156	156	146	137	137
2600	±15	181	231	214	213	182	182	170	189	212	231	169	188	169	169	169	158	149	149
2800	±15	196	249	230	230	197	197	183	203	229	249	182	202	182	182	182	171	161	161
3000	±15	210	267	247	247	211	211	196	218	245	268	196	217	196	196	196	183	173	173
3200	±15	224	286	264	263	225	225	210	233	262	286	209	232	209	209	209	196	184	184
N/A = Not applicable because of troughability.																			