

## SECTION CONVEYOR BELTS



Certificate NO.: CZ 007335-1 BY EN ISO 9001:2016 AND CZ 007336-1 BY EN ISO 14001:2016

# Technical Terms of Acceptance BELT-8/06

## Section conveyor belts

1. General Information.....	1
2. Technical Requirements.....	2
3. Marking.....	4
4. Storing.....	4
5. Packaging and Delivery.....	4
6. Checking and Claims.....	4
7. Utilization and Product Safety (General Product Safety Act).....	5
8. List of Conducted Tests and Relevant Standards.....	6
9. Attachments.....	6

### 1. General Information

- 1.1. These Technical Terms of Acceptance are mandatory for both suppliers and consumers of section conveyor belts
- 1.2. They are mandatory for production, ordering, delivery and use.
- 1.3. Section conveyor belts are used for conveying of loose and lump materials at an angle of over 60° and for other special purposes, for which smooth belts are not suitable.
- 1.4. Section conveyor belts consist of a supporting skeleton made of polyester or polyamide textile gasket, both-sided rubber covering layer and protective rubber edges. Rubber sections are vulcanized on the covering layer of the belts.
- 1.5. Belt sections can be produced without protective rubber edges (with cut edges) upon request.
- 1.6. Belts are produced in metal molds and thus their shape, size and design cannot be changed.
- 1.7. Specification is determined by drawing No. (or former No.).
- 1.8. A possibility of production of a new belt can be negotiated. Covering layers category and thickness, width, an amount and type of textile gaskets and other important information must be discussed.
- 1.9. If the client orders a belt made of a mold which belongs to another customer and if his consent is needed for using this mold, the manufacturer will inform the client about it and the client will be obliged to obtain the necessary consent.
- 1.10. There are two types of belts: whole and connected. Belts can be connected by vulcanization on required length.
- 1.11. Marking on technical documentation must contain the following information:
  - 11.1.1 Mold No. (drawing No.)
  - 11.1.2 Length in meters
  - 11.1.3 Width in meters

## SECTION CONVEYOR BELTS

- 11.1.4 Category of covering layers „B” and their thickness
- 11.1.5 Amount and type of gaskets
- 11.1.6 Belt type: whole \ connected (required length)
- 11.1.7 Other special requirements, for instance tolerance<sup>1</sup>
- 11.1.8 The No. of these Technical Terms of Acceptance

## 2. Technical Requirements

- 2.1. The shape and dimensions of conveyor belts are specified on drawings in the attachment of these Technical Terms of Acceptance. This table shows the types of conveyor belts - (§ 3, paragraph 1, point a) z.102/2001Sb.)

Drawing No.	Width (mm)	Projection height - spacing		Composition Strength + covering	Note
3-5911-0020	250	50	116	EP 250/2,2 + 1,5 Thickness 6 mm	
309 769	300	10	200	EP 315/2, 3+3	Without side strip
309 770	350	10	200	EP 250/2, 3+3 EP 400/3, 3+2	With side strip With side strip
409 1028a	400	16	185	EP 500/3, 3+2	Without side strip
409 1028	450	16	185	EP 500/3, 3+2	With side strip
409 1027	500	16	185	EP 500/3, 3+2	With side strip
TR 463 009	500	65	250	EP 500/3, 3+3	Thickness 7-10 mm
TR 463 009	650	65	250	EP 630/3, 3+2	Thickness 10-13 mm
320 022	600	65	328	EP 250/2, 2+2	Thickness 7-8 mm
532.541.2	650	25	500	EP 250/2, 3+2 EP 315/2, 3+2 Thickness 7 mm	
8258	650	35	420	EP 315/2, 3+2	With or without tongue
8255	800	35	470	Thickness 7 mm	
8256	1000	40	725	EP 160/1, 3+3 Thickness 7 mm Thickness 9,6 mm	
UIP-5-22457	1000	12	800	EP 630/3, 3+2 EP 630/4, 3+2	With side strip Thickness 9 mm
320 019	1000	12	650		With side strip Thickness 11-13 mm
1-43143a	1000	20	620		With side strip Thickness 11-13 mm
320 021	650	14	1000	EP 630/4, 3+3 Thickness 11-13 mm	
320 020	800	14	1000	mm Thickness 9–11 mm	
420 0 133	500	20	300	EP 400/3, 3+2 EP 500/3, 3+2 Thickness 8-12 mm	
	600	20	300		
	650	20	300		
	750	20	300		
	800	20	300		

<sup>1</sup> (ČSN ISO 3302-2:1998 Rubber – Products tolerance - Part 1 : Geometric tolerance)

Other standards used: ISO 1101:1983; ISO 2230:1973; ISO 4648:1991

## SECTION CONVEYOR BELTS

3TP0531/7/88 320 017 3-17-1670 3TP0531/7/88 3-532-0-7040	400 500 500 650 800 1200	9x5 19x5 19x5 9x5 19x5 6x3,5	35 50 50 35 50 12,75	EP 315/2, 2+0, 2+3 EP 250/2, 3+1,5 EP 250/2, 3+3  EP 250/2, 2+3 EP 200/2, 2+3	Width 800mm Available with bottom comb
420 0 132	600	11	190	EP 400/3, 3+2 Thickness 8 mm	

2.2. Width tolerance is specified in the following table:

Nominal size range in mm	Deviation class P2
up to 500 mm	+/-5 mm
over 500 do 700 mm	+/-6 mm
over 700 do 900 mm	+/-8 mm
over 900 do 1500 mm	+/-12 mm
over 1500 do 2000 mm	+/-18 mm

2.3. Dimensions tolerance is in accordance with ČSN 63 0100, accuracy lever 03 (ČSN ISO 3302 - Rubber – Products tolerance - Part 1: Dimensions tolerance)

2.4. Thickness data is informative.

2.5. There are two types of section conveyor belts:

- ✓ whole - up to 15m +/- 0,5%
- ✓ non-connected - 20m - 100m, maximal reel diameter is B=2800 mm

2.6. An extra length must be added to the length of non-connected conveyor belts (which will be additionally connected by vulcanization). The sum of both lengths should be written in the order. For calculating the extra length multiply the width by 1,5 and length for the angle 16°–26° (depending on the equipment type) for each connection.

2.7. Properties of rubber of covering layers and sections depend on material.

2.8. Choose a covering layer according to the type of conveyed material: for example category B - moderately abrasive materials (gravel, ashes, coal, agricultural products, lime, sand etc.)

2.9. The temperature of conveyed material is 25-60°C.

2.10. Thickness and tolerance of rubber covering layers is:

2.11. Thickness of the covering layer is 2,3 mm, tolerance is 1% (=0,2 mm)

2.12. Thickness of the covering layer is 3 mm, tolerance is 1% (=0,3 mm)

2.13. Cohesiveness between textile gaskets of conveyor belts must be at least 3,6 N/mm and between covering layer and gasket – at least 3,6 N/mm.

2.14. Types of textile gaskets for producing section conveyor belts:

2.14.1	polyamide	EP	100/60
2.14.2	polyamide	EP	160/80
2.14.3	polyamide	EP	200/80
2.14.4	polyamide	EP	250/80
2.14.5	polyamide	EP	300/100

2.15. The number in the marking indicates the textile strength.

2.16. Strength of conveyor belts:

Amount of gaskets	Type		
	EP-100	EP-160	EP-300
1	98	157	294
2	176	283	529
3	333	400	750
4	321	515	964

## SECTION CONVEYOR BELTS

5	391	626	1173
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- 2.17. Belt marking: type – drawing No. – month and year of production – category of cover layers – No. of the order.

### 3. Marking

- 3.1. Each roll is marked in the accompanying documentation and the delivery note.
- 3.2. The delivery note provides basic parameters of the product, based on these technical terms of acceptance.
- 3.3. There is a certificate attached, according to ČSN EN 10 204, unless otherwise is stated in the contract. [Inspection Certificate 3.1 according to ČSN EN 10204: 2005 / August - Declaration of compliance with the order and specification of the results of tests carried out under a specified control. The manufacturer`s authorized representative is independent of the production units.](#)
- 3.4. According to a special legislation<sup>2</sup>, the product provides information needed for identification of the manufacturer and the product (or product batch), in accordance with § 5, paragraph 1 point b) law 102/2001 Sb. and paragraph 2.

### 4. Storing

- 4.1. Storing. By ČSN 63 0001 Rubber products. Storing and treatment of rubber and rubber products. (DIN 7716)

### 5. Packaging and Delivery

- 5.1. Section belts are wound on wooden reels.
- 5.2. Non-connected section belts are wound on wooden reels (diameter at least 300 mm), with the sections outside, and tied up. Wraps meet the requirements specified in § 3 and 4 of the law 477/2001 Sb.<sup>3</sup>
- 5.3. Delivery is carried out according to the agreement with the customer.
- 5.4. The supplier of rubber carpets is involved in the EKO-KOM system and has an agreement with the authorized packaging company EKO-KOM in order to fulfil statutory obligations in terms of package use and recycling. Client No. EK-F00050076.

### 6. Check and Claims

- 6.1. The supplier and/or the manufacturer check the products visually, check the dimensions and physical and chemical properties according to standard operating procedures.
- 6.2. Final check is required before a product is sent to the customer.
- 6.3. Final check is independent of production.
- 6.4. Carpets can be returned only if they were used for recommended purposes and the conditions for their installation were complied.
- 6.5. Mechanically damaged carpets cannot be returned.
- 6.6. Product quality is guaranteed by Quality Management System, based on the Certificate ISO 9001:2000 (certificate number CQS 2156/2003, date 31.8.2003),

<sup>2</sup> Commercial code, law No. 123/2000 Sb., regulation No. 181/2001 Sb., as amended in the regulation No. 336/2001 Sb., regulation No. 191/2001 Sb., as amended in the regulation No. 337/2001 Sb., and regulation No. 286/2001 Sb. (3) Marking means labeling the product.

<sup>3</sup> 477/2001 Novels: 274/2003 Sb. changing 1.10.2003, 94/2004 Sb. changing 3.3.2004, 237/2004 Sb. cancelling THE 5TH PART 1.5.2004, 257/2004 Sb. changing 1. 5.2004

## SECTION CONVEYOR BELTS

which is annually verified by an audit CQS Prague by a certificate of Quality Management System.

- 6.7. Inspection certificate, according to the point **3.1.** of the standard **ČSN EN 10204** "Types of inspection documents", may be issued upon request. Inspection certificate is issued by a department independent of the production units and is certified by an authorized representative independent of the production units.

## **7. Utilization and Product Safety (General Product Safety Act <sup>4</sup>)**

- 7.1. Correct maintenance guarantees that the conveyor belt will not be damaged by:
- 7.1.1. piercing by large conveyed material;
  - 7.1.2. conveying other material than intended;
  - 7.1.3. conveyed material stuck in the drum;
  - 7.1.4. foreign objects stuck between the drum and the belt;
  - 7.1.5. damage of the edges of the belt, caused by sliding off, because of conveyor path curvature;
  - 7.1.6. collapse;
  - 7.1.7. damage of rubber covering layer because of incorrect adjustment of cleaners and so on;
  - 7.1.8. incorrectly chosen drum diameter;
  - 7.1.9. solvents, fats, greases, oils and other aggressive substances that are not intended for use with this type of conveyor belt;
  - 7.1.10. start of the conveyor on long distances should be smooth and maximal driving force during start should be only  $T_{max} = 1,6 T$ .
- 7.2. Water can be used for cleaning. Adding a bit of detergent in water helps cleaning. Organic solvents or detergent solutions based on light gasoline fraction are not suitable for cleaning, as they may damage the product. For cleaning oil-resistant belts follow recommendations, specified in advance for each type of belts.
- 7.3. The safety of products was assessed based on current state of science and technology and many years of experience with similar rubber products. No risk that the use of the product may cause was found according to a test. The results of the test are available upon request.
- 7.4. These technical terms of acceptance also serve as an accompanying documentation. It provides necessary information, such as basic physical and mechanical properties, method of use and so on, in accordance with § 3, paragraph 1, point a) and other of the law No. 102/2001Sb., as amended.
- 7.5. Unless the manufacturer assigned otherwise, exposing the product to temperatures above 65 °C is not recommended, as it may lead to a damage.
- 7.6. If this product is used for a machinery, produced by the manufacturer as one piece, then the conformity assessment, according to the law No. 22/1997 Sb, is carried out by the manufacturer in accordance with the regulation No. 170/1997 Sb., which determines technical requirements for the machinery (as amended by the regulation No. 24/2003 Sb.)
- 7.7. If it comes as part of a machinery then the manufacturer carries out the conformity assessment as part of the machinery.
- 7.8. After the end of its service life, the product can be recycled in a device suitable for rubber waste.
- 7.9. Package waste, such as wooden pallets or reels, are not impregnated with any harmful and/or hazardous substances and thus can be energetically used.  
Vide infra:

ČSN EN 13427 Package - Requirements for the use, European standards for packaging and package waste; August 2001  
ČSN EN 13429 Package – Reuse; September 2001  
ČSN EN 13430 Package - Requirements for packaging suitable for recycling; September 2001

<sup>4</sup> Law No. 348/2004Sb. full text of the law No. 102/2001 Sb., about general product safety and after changing some other laws (General Product Safety Act) as follows from changes made by the law No. 146/2003 Sb. and the law No. 277/2003 Sb.

## SECTION CONVEYOR BELTS

- ČSN 77 0053 Package - Package waste - Instructions and information for treatment of used package; March 2002  
ČSN 77 0052-2 Package - Package waste. Part 2: Identification marking of packages for utilization of package waste; March 2002  
ČSN EN 13431 Package - Requirements for packaging usable as a source of energy, including minimal inferior calorific value

- 7.10. The product after the end of its service life must not be burned in local heaters or other similar small combustion sources. Black smoke is generated during combustion. It contains hydrocarbons, soot-based compounds and other compounds which are used in rubber manufacture. Dangerous hydrocarbons CxHy get released as well. The product does not emit volatile organic compounds in terms of 355/2002Sb. or 509/2005Sb. Emission of radiation or other emissions were not analyzed or identified. No residual risk was found in terms of OHSAS, if basic safety practices specified by § 132aZP are complied.
- 7.11. No risks that the use of the product may cause to consumers (especially children and people with reduced mobility and orientation) were found on a safety test (§ 3, paragraph 1, point a) of the law 102/2001Sb.).
- 7.12. The product does not affect other products under normal use.

## **8. List of Conducted Tests and Relevant Standards**

Tests are conducted based on standards and standard operating procedures that were developed under these standards. The devices used for these tests are included in the company's metrological confirmation system. Their use is managed in accordance with the standard ČSN EN ISO 10012, November 2003: Measurement Management System - Requirements for measurement processes and measuring equipment.

Test name	Method specification
Rubber density determination	ČSN 62 1405
Hardness determination by indenting the tip of durometer (Shore)	ČSN 62 1431 ISO 27 83
Rubber abrasion resistance determination	ČSN 62 1466 ISO 46 49

## **9. Attachments**

*Inspection certificate according to the article 3.1. of the standard ČSN EN 10204 "Types of Inspection Documents". (Certificate of Quality)*  
*Certificate of Quality Management System of Manufacturer*  
*Certificate of Quality Management System of Distributor*

Ing. Marcela Kadová  
production manager

Signature : \_\_\_\_\_  
Teplice, date 1.1.2020