

CONVEYOR-BELTS

 **NewkoBalkan<sup>®</sup> L.L.C**



ISO 9002



Formerly known as Balkan Belt-Suhareke, Newko Balkan LLC has established in 2005 upon Ozerler Group of Companies' purchasing out of privatization. As a rubber industry integrated plant, Newko Balkan LLC constitutes of 6 production units: conveyor belts, V-belts, conveyor belt fabrics, technical rubber parts, rubber compounding, and rubber boots & shoes. Located in Suhareke-Kosovo, Newko Balkan has 155.107 m<sup>2</sup> open area and 58.000 m<sup>2</sup> closed area.

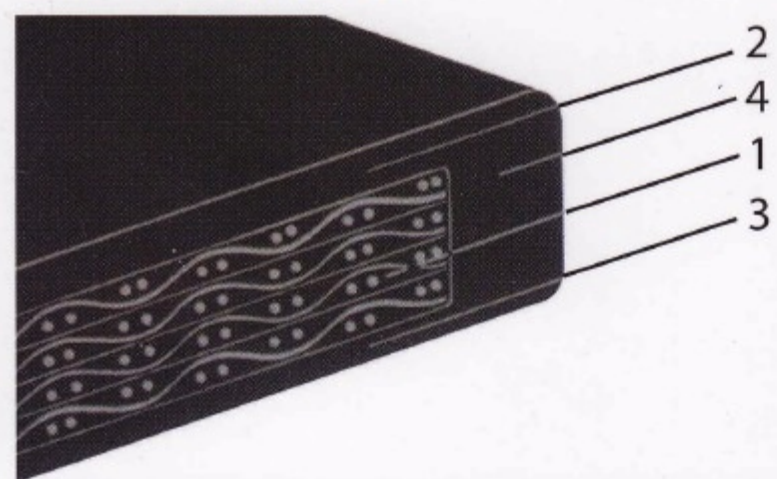
Conveyor belt unit produces textile reinforced conveyor belts, using its own conveyor belt fabrics. Respect to current capacity report, annual belt production capacity is 619.580m with its 7 presses, and rubber compound production annual capacity is 7.550 ton. Newko Balkan LLC is capable of producing textile reinforced conveyor belts up to 3200 mm. Moreover, we produce steel cord reinforced conveyor belts in the classes of nominal strength up to ST-5000 with the width up to 2200 mm. Producing all our belts according to international norm with ISO 9001 certificate.

## CONVEYOR BELTS PRODUCTION

- General purpose conveyor belts (Textile and steel cord reinforced)
- Conveyor belts for special purposes
- Elevator conveyor belts
- Conveyor belts with patterned top thread structure
- Conveyor belts with ribbed to thread
- Drum rubber casings, rubber wipers and directional rubber products and accessories
- Flat conveyor belts

## ELEMENTS OF RUBBER CONVEYOR BELTS

1. Support structure carcass
2. Top rubber cover
3. Bottom rubber cover
4. Rubber protective edge



## SUPPORT STRUCTURE - CARCASS

The support structure - carcass is made of several layers (inlays) of regularly spaced and pressed rubberized fabric, in order to accept the total pulling force of the conveyor belt.

In the production of rubberized fabrics, we are capable of producing the following types of fabrics:

- EP (polyester warp, polyamid weft)
- PA (polyamide warp, polyamide weft)
- EE (polyester warp, polyester weft)

| Fabric type  | Fabric type  |
|--------------|--------------|
| EP/PA/EE-80  | EP/PA/EE-315 |
| EP/PA/EE-100 | EP/PA/EE-400 |
| EP/PA/EE-125 | EP/PA/EE-500 |
| EP/PA/EE-160 | EP/PA/EE-630 |
| EP/PA/EE-200 | PA-700       |
| EP/PA/EE-250 | -            |

## RUBBER COVER

Top and bottom rubber covers protect the support structure from mechanical damages, wear and tear during the transport of materials. The top rubber covers are usually made of rubber with the following physical and mechanical properties:

| Type of cover |              | Tensile strengths Min(Mpa) | Elongation At Break (%) min | Abrasion Resistance (mm <sup>3</sup> ) max |
|---------------|--------------|----------------------------|-----------------------------|--|
| DIN 22102     | EN ISO 14890 | TS                         | EB                          | AR   |
| W (AA)        | D            | 18                         | 400                         | 90   |
| X (M)         | H            | 25                         | 450                         | 120  |
| Y (N)         | -            | 20                         | 400                         | 150  |
| Z (P)         | L            | 15                         | 350                         | 250  |

## RUBBER PROTECTIVE EDGES

The rubber protective edges due to side shocks protect the support structure of conveyor belts from mechanical damage.

## SIZE OF CONVEYOR BELTS

The sizes of conveyor belts correspond to DIN 22102 and ISO 251

- Width ranges from 200 to 3,000 mm ;
- Length is not standardized and is maximum length of a conveyor belt in one section is limited by its proper weight and the diameter of the pulling roll or drum. This length ranges between 100 and 300 m, and the most frequently use length is 200 m.
- Thickness ranges from 4 to 30 mm.

## CONSTRUCTION MODELS

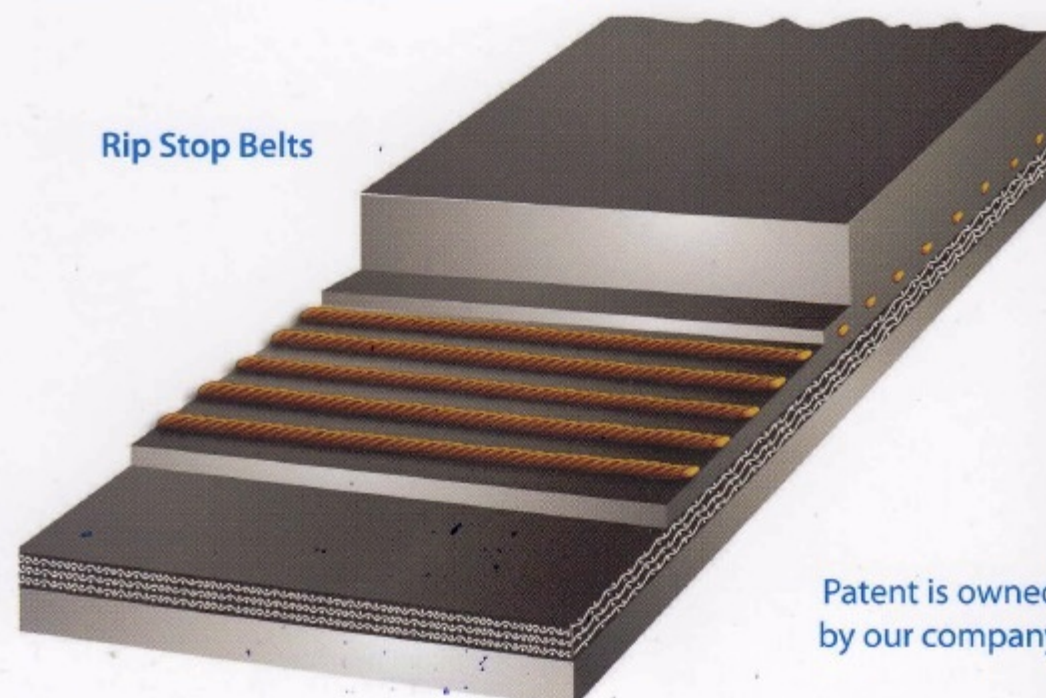
1. Conveyor belts with protective edges
2. Conveyor belts with steel breakers
3. Conveyor belts with middle protective rubber layer (skim)

Beside the conventional model of conveyor belt with protective edges, we produce rip stop belts.

The protective inserted piece (breaker) protects the support structure (carcass) from mechanical damage and may be located on the top & bottom or on the top only.

Conveyor belt model with inserted protective rubber piece (skim), placed between each inserted piece, is also used to dampen all mechanical shocks encountered during operation.

## Rip Stop Belts



Patent is owned by our company





### GENERAL PURPOSE CONVEYOR BELTS

The general purpose conveyor belts have rubber covers which are made to sustain any operating conditions.

Environment operating temperature -25 to + 60°C

Temperature of transported material: up to +60°C

For the transport of all potentially damaging material the standard types of rubber covers are W(D), X(H), Y and Z(L). Their properties are given in the table listing the properties of rubber covers.

### REGULAR QUALITY CONVEYOR BELTS

Applied standards: DIN 22102 - EN ISO 14890

These conveyor belts are suitable for transport of various materials classified as wearing and low-wearing: coal, kaolin, lime, cement, clay, sand, gravel, salts, soil, granulated materials, wheat, wood shavings etc.

### ANTI ABRASION CONVEYOR BELTS

Applied standards: DIN 22102 - EN ISO 14890

These conveyor belts with rubber covers of X(H) and W(D) types are more

resistant to large tension and wear than the Y and Z(L) quality conveyor belts. They are suitable for transport of materials classified as highly wearing, e. g. quartz, stone, glasse, pyrite, iron materials, zinc, slag, limestone, hot furnace waste etc.



Clay Belt 1800 mm/ST 2500

### FLAME RESISTANT BELTS

These conveyor belts with their fire-proof, respectively self extinguishing and anti-static properties are specially produced for use at locations with high fire hazard. They are not self-igniting, and if ignited they exercise their self-extinguishing capability. The rubber covers are made of specially treated rubber.

The physical and mechanical properties in the Y and Z (L) quality class: Mark of extra quality(DIN 22103):

K- fire-resistant with rubber cover, able to discharge static electricity

S-fire-resistant with and without rubber cover, able to discharge static electricity.



Underground Mine Belt 1200 mm/ST 1000

### HEAT - RESISTANT CONVEYOR BELTS

Mark of extra quality:T

These conveyor belts are used for transport of hot materials with temperatures exceeding 60°C.

The physical and mechanical properties of the rubber cover correspond to Z (L) quality class.

Depending on the temperature, variations T1 or T2 are used. In transport of materials in pieces the following possibilities are provided:

T1- maximal material temperature 120°C

T2- maximal material temperature 200°C



Clinker Belt 650 mm /EP 630

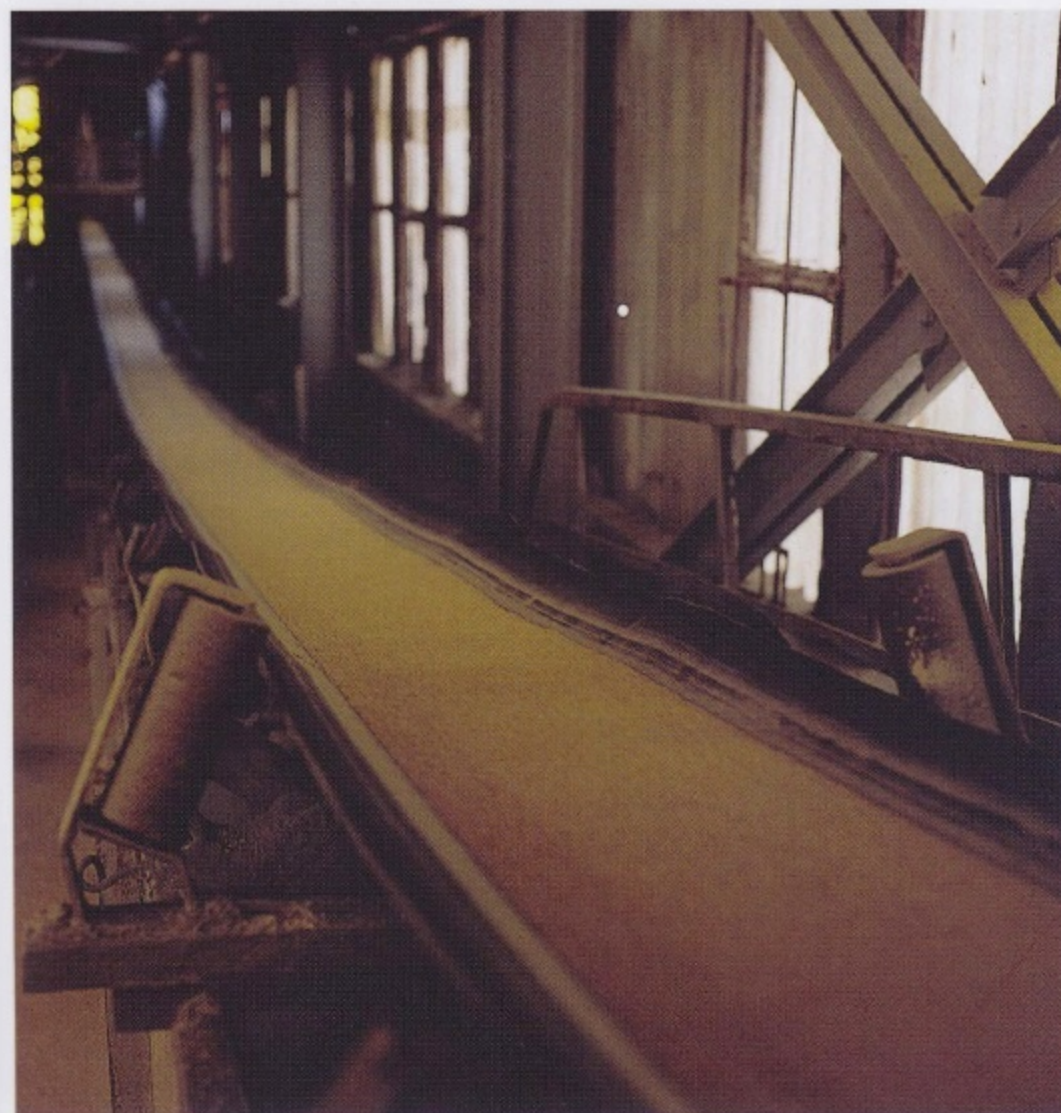


## OIL RESISTANT CONVEYOR BELTS

Mark of extra quality:G

These conveyor belts are used for transport of materials containing oil and grease.

The physical and mechanical properties of the rubber cover correspond Y and Z (L) quality class.



Oily Fertilizer Belt 650 mm/EP 500

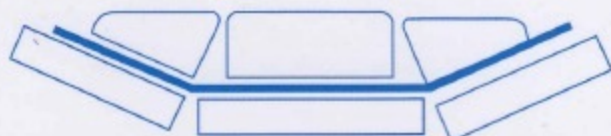
## CONVEYOR BELTS WITH CAST RIBS

The conveyor belts with cast ribs and made in widths ranging from 350 up to 1,000 mm, with ribs spaced at 146, 219 and 328 mm, and rib heights of up to 15 mm.



## BED SHAPED CONVEYOR BELTS

The bed-shaped conveyor belts are used wherever higher transport capacity and higher angles (up to 70°) of transport are required. This type of conveyor belts is also used in bed-shaped transport systems. The bed-shaped conveyor belts are made as two section or three section types with T-profile ribs, while the shape of the sides is always adjusted so as to enable the correct dosing of individual bed shaped sections of the conveyor belt.

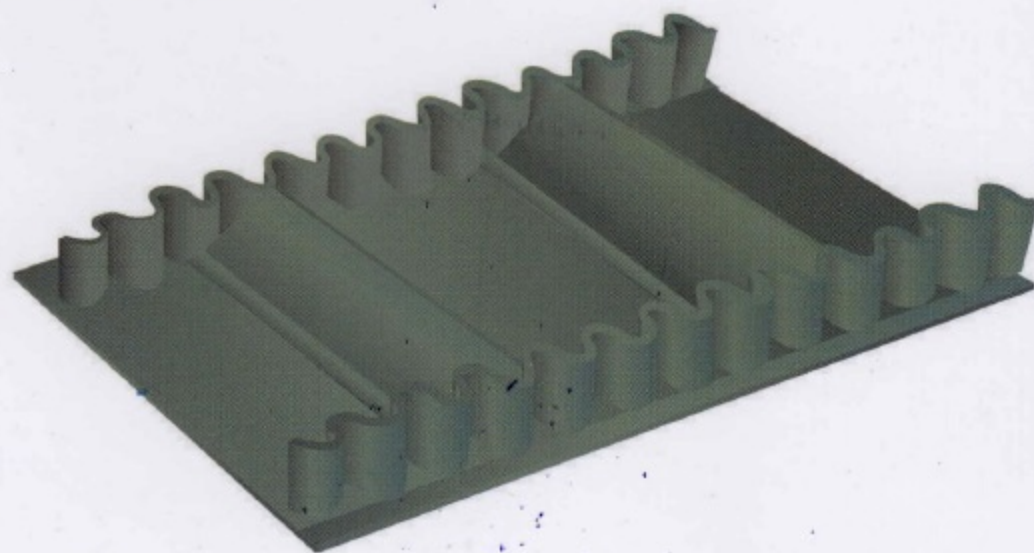


## BASIC SELECTION GUIDE FOR CARCASS CONSTRUCTIONS BY NEWKO BALKAN

| Strength Class | Carcass construction | Tersile Strenght da/N cm min | Carcass wt.w/out cover applox kg/m <sup>2</sup> | Carcass thickness w/out cover approx mm. |
|----------------|----------------------|------------------------------|---|--|
| EP-160/2       | 2x EP-80             | 160                          | 1.90  | 1.80                                     |
| EP-200/2       | 2x EP-100            | 200                          | 2.00  | 2.00                                     |
| EP-250/2       | 2x EP-125            | 250                          | 2.20  | 2.10                                     |
| EP-315/2       | 2x EP-160            | 315                          | 2.50  | 7.30                                     |
| EP-315/3       | 3x EP-125            |                              | 3.40  | 3.15                                     |
| EP-400/2       | 2x EP-200            | 400                          | 3.30  | 2.90                                     |
| EP-400/3       | 3x EP-125            |                              | 3.40  | 3.15                                     |
| EP-500/2       | 2x EP-250            | 500                          | 4.40  | 3.30                                     |
| EP-500/3       | 3x EP-160            |                              | 3.80  | 3.45                                     |
| EP500/4        | 4x EP-125            |                              | 4.50  | 4.20                                     |
| EP-630/2       | 2x EP-400            | 630                          | 5.00  | 3.70                                     |
| EP-630/3       | 3x EP-200            |                              | 5.00  | 4.35                                     |
| EP-630/4       | 4x EP-160            |                              | 5.00  | 4.60                                     |
| EP-630/5       | 5x EP-125            |                              | 5.60  | 5.25                                     |
| EP-800/2       | 2x EP-400            | 800                          | 5.90  | 5.10                                     |
| EP-800/3       | 3x EP-250            |                              | 6.60  | 4.95                                     |
| EP-800/4       | 4x EP-200            |                              | 6.70  | 5.80                                     |
| EP-800/5       | 5x EP-160            |                              | 6.30  | 5.75                                     |
| EP-1000/2      | 2x EP-500            | 1000                         | 6.80  | 6.30                                     |
| EP-1000/3      | 3x EP-315            |                              | 7.40  | 5.55                                     |
| EP-1000/4      | 4x EP-250            |                              | 8.80  | 6.60                                     |
| EP-1000/5      | 5x EP-200            |                              | 8.30  | 7.25                                     |
| EP-1250/3      | 3x EP-400            | 1250                         | 8.80  | 7.67                                     |
| EP-1250/4      | 4x EP-315            |                              | 9.90  | 7.40                                     |
| EP-1250/5      | 5x EP-250            |                              | 11.00   | 8.25                                     |
| EP-1600/4      | 4x EP-400            | 1600                         | 11.80   | 10.20                                    |
| EP-1600/5      | 5x EP-315            |                              | 12.40   | 9.25                                     |
| EP-2000/4      | 4x EP-500            | 2000                         | 13.70   | 12.60                                    |
| EP-2000/5      | 5x EP-400            |                              | 13.70   | 12.75                                    |
| EP-2500/4      | 4x EP-630            | 2500                         | 14.70   | 14.20                                    |
| EP-3150/5      | 5x EP-630            | 3150                         | 18.40   | 17.75                                    |

## RIBBED CONVEYOR BELTS

In operations of transport of materials at a high inclihe, we recomend the use of ribbed conveyor belts, which prevent sliding and allow the transport of larger quantites of materials. The classification of ribbed conveyor belts is somewhat difficult, and can be best illustrated as follows.



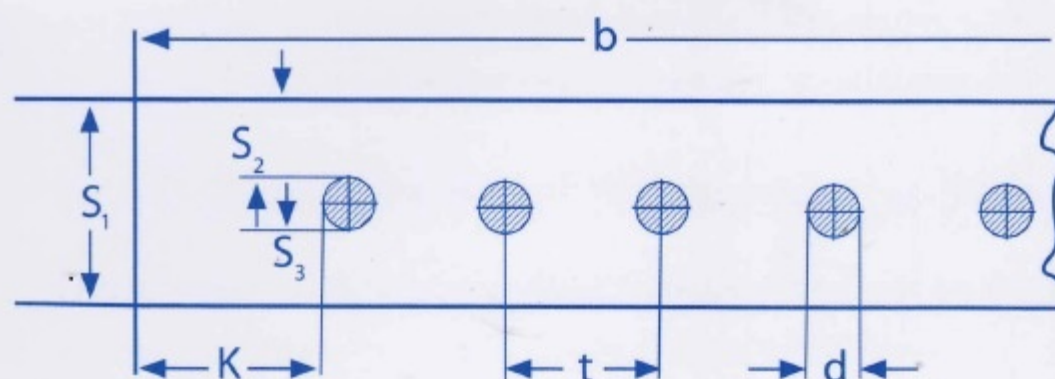


## RUBBER COVER

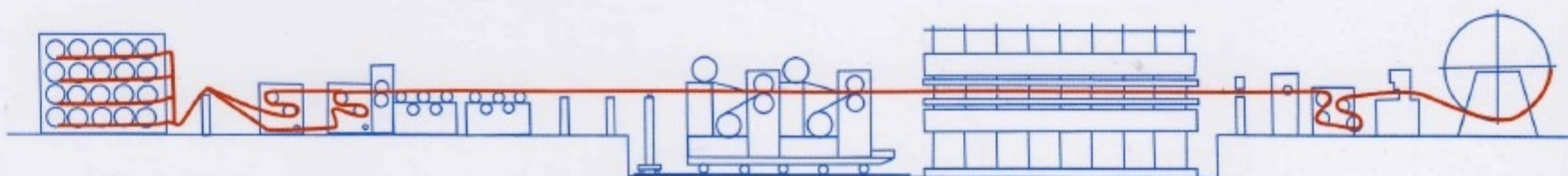
The conveyor belts with steel cords are suitable for the conveyors for transportation on long distances under difficult transporting conditions. The basis of the conveyor belts with steel cords is a carcass of steel cords with a protective layer over it. The carcass is protected from damaging with top and bottom rubber covers as well as with protective rubber edges.

The advantages due to which these belts are in application are the following:

- Long life of exploitation
- Low elongation
- High tensile strength
- Troughability
- Long span conveyor
- Small pulley diameter



t - cord pitch  
d - cord diameter  
S<sub>1</sub> - thickness of the belt  
K - edge rubber  
b - belt width



## TS EN ISO 15236

| 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<br>K <sub>Nmin</sub>           | N/mm            | 500                   | 630 | 800  | 1000 | 1250 | 1400 | 1600 | 1800 | 2000 | 2250 | 2500 | 2800 | 3150 | 3500 | 4000 | 4500 | 5000 | 5400 |
| Max. Cord Diameter<br>d <sub>max</sub>               | mm              | 3                     | 3   | 3,7  | 4,2  | 4,9  | 5    | 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<br>F <sub>bsmin</sub> | 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   | 55,5 | 63,5 | 75   | 90,3 | 96   |
| Cord Pitch<br>t                                      | mm              | 14                    | 11  | 12   | 12   | 14   | 14   | 15   | 13,5 | 12   | 11   | 15   | 13,5 | 15   | 15   | 15   | 16   | 17   | 17   |
| Min Thickness of Covers<br>S <sub>min</sub>          | mm              | 4                     | 4   | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 5    | 5    | 5,5  | 6    | 6,5  | 7    | 7,5  | 8    |
| Belt width<br>B in mm                                | Tolerance in mm | Number of Cords,<br>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             | 86                    | 110 | 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  |





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