

FLEXOWELL®-belts for  
safe and efficient  
steep inclined and  
vertical conveying



# FLEXOWELL®

Worldwide the number 1 for  
up- and downhill conveying

## ContiTech Conveyor Belt Group

Global competition and the technological change are challenges to those we as a manufacture of conveyor belt and systems, position ourselves. Our internal and geographic network assists to us in it by the synergies valuable we win.

Our innovation ability, the most modern technologies and comprehensive services close to customer make us the partner from Mining, machine and investment construction as well as many other industries in the world. Integrated in the group area ContiTech are we a part of the Continental AG, their financial power and synergy potentials.

**Continental**  
**CONTITECH**



In 1964, the first FLEXOWELL®-conveyor belt opened up a new dimension in bulk material handling and conveying. The FLEXOWELL®-conveyor system being capable of running both horizontally and vertically, or at any angle in between, allows heavy-duty conveying systems with large capacities to be designed, constructed and maintained at considerably reduced initial and maintenance cost. Today the FLEXOWELL®-technology – being reliable and environmentally friendly – is in use in more than 60,000 installations throughout the world for the benefit of our customers.

The vertical FLEXOWELL® S-system shown below is only the most popular sample of the large variety of conveyor shapes for complete bulk material handling solutions at any angle from 0° to 90°.

### Outstanding Features

FLEXOWELL®-conveyor belts can be integrated into complex conveying processes and ensure a continuous conveying performance without further transfer points.

The advantages provided to plant engineers and operators are:

- quick installation
- reduced number of transfer points
- long service life
- reduced power requirements
- quiet running
- reduced maintenance
- environmentally friendly



Conti Tech conveyor-belt-technology for safe steep inclined and vertical conveying



# FLEXOWELL®

## ContiTech Conveyor Belt Systems – Your partner for Increasing Productivity

From horizontal  
to vertical:  
faster, cleaner,  
economical.

### Technical Details

FLEXOWELL®-conveyor belts basically consist of the following 3 components:

- ▶ cross-rigid base belt with horizontal textile and/or transverse steelcord reinforcement
- ▶ corrugated sidewalls made of reinforced, vulcanized rubber
- ▶ transverse cleats preventing the material to be conveyed from sliding backward.

The corrugated sidewalls and cleats are fitted to the base belt (cold vulcanization). The cleats are screwed to the sidewalls and can be replaced quickly and easily, if needed. Sidewalls and cleats are both available from 40 (1.58 inch) to 630 mm (24.8 inch) high.

FLEXOWELL®-conveyor belts are supplied in standard black rubber quality of high abrasion resistance. In addition, other qualities such as heat and oil resistant or flame retardant rubber can be supplied. FLEXOWELL®-conveyor belts are designed for horizontal, steep inclined and vertical handling of all kinds of bulk materials – from coarse-size coal and ore, rock, coarse sand or fertilizers. Lump sizes varying from powdery, floury material up to 400 mm (16 inch) can be handled easily with FLEXOWELL®-conveyor systems. Materials can be carried over 500 m (1,640 ft) in vertical lift with capacities from 1m³/h up to 6,000 t/h

### Application Areas

Maximum reliability is granted by FLEXOWELL®-conveyor belts thus ensuring an environmentally friendly operation in all kinds of industries as:

- ▶ coal and wood-chip fired power stations
- ▶ underground mining (coal and ore)
- ▶ shaft conveying for tunnelling and underground mining
- ▶ steel industry
- ▶ ship loading and unloading, ship to ship loading
- ▶ sand preparation in foundry plants
- ▶ silo feeding
- ▶ slope conveying in openpit mining
- ▶ waste recycling, soil purification and water treatment
- ▶ handling of large material flows in the horizontal path

**Engineered Products** is part of the ContiTech Conveyor Belt Group and offers as a development partner with know-how, products and an extensive service for conveyor belts and systems, a high productivity in bulk material handling. Our customers himself can count on many years of experience and immediate, goal-driven support.

- ▶ computer-aided design and layout of FLEXOWELL®-conveyor belts according to the customers' individual requirements and application
- ▶ precise design requirements and specification for mechanical rotation parts for the conveyors
- ▶ conveyor inspection carried out in the framework of service contracts or inspection service contracts only with recording of results

### The FLEXOWELL®-technology holds all inclined and vertical continuous transport records in the bulk material handling industry...

- ▶ over 60,000 installations worldwide
- ▶ most experience: FLEXOWELL®-technology in practical operation since 1964
- ▶ highest performance: 276 m (905 ft) vertical up to 2,000 t/h (2,204 st/h)
- ▶ vertical conveying: up to 500 m (1,640 ft) possible
- ▶ widest belts: 3,2 m (10.5 ft)
- ▶ highest tensile strength: up to 8.600 N/mm (4,910 PIW)
- ▶ lowest belt elongation: by means of high tensile fabric or steelcord members
- ▶ highest sidewalls: up to 630 mm (24.8 inch)
- ▶ highest cleat profiles: up to 600 mm (23.8 inch)
- ▶ worldwide sales: in 45 countries



Tunneling,  
limestone, 1,200 t/h



FLEXOTURN®,  
Torsion angle 180°



# Technical information

## Belt description

One of the main advantages of the FLEXOWELL®-belt is that cross rigid base belts can be deflected from the horizontal to an incline or vertical and back again without bowing or sagging (e.g. S-conveyors). These deflection points as well as the belt return on free lateral space supported by stub idlers definitely requires the cross-rigidity of the base belt. This development led to the special cross-rigid FLEXOWELL®-base belts. The cross rigidity is achieved by the fabric construction, a special belt composition and by a unique production procedure which we have developed. For a tensile rating of >1000 N/mm steel cord belts with this cross-rigid belt construction must be used.

This exclusive base belt is the superior feature of the FLEXOWELL®-design and represents a complete technical system together with the corrugated sidewalls and cleats.

In order to grant optimal solutions for each application there are five different types of belts, six rubber qualities, also for sidewall and cleat profiles.

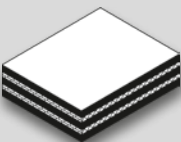
### Cross-rigid fabric belts listed here are available in these qualities:

<b>Y</b>	black, standard
<b>GP</b>	black, oil, grease and resin resistant
<b>T</b>	black, heat resistant
<b>S</b>	flame resistant (ISO 340/EN 20340)
<b>MSHA</b>	flame resistant (USA)
<b>vt</b>	self extinguishing (surface applic only)

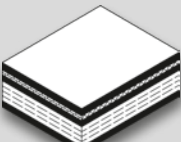
### Cross-rigid steelcord belts listed here are available in these qualities:

<b>Y</b>	black, standard
<b>GP</b>	black, oil, grease and resin resistant
<b>MSHA</b>	flame resistant (USA)
<b>vt</b>	self extinguishing (surface applic only)

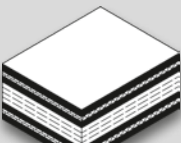
## Cross-rigid fabric and steelcord belts



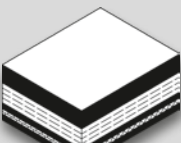
**Typ XE** ...light duty FLEXOWELL®-applications only.



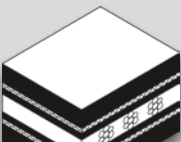
**Typ XOE** ...reduces transverse deflection at wheels and stub idlers.



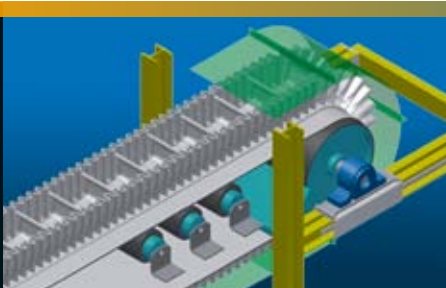
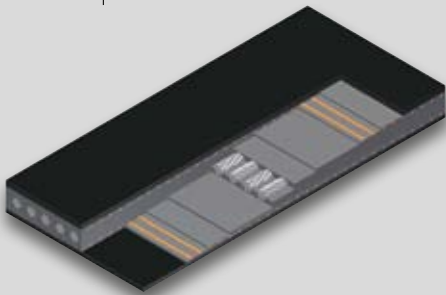
**Typ XDE** ...medium and heavy duty special applications only.



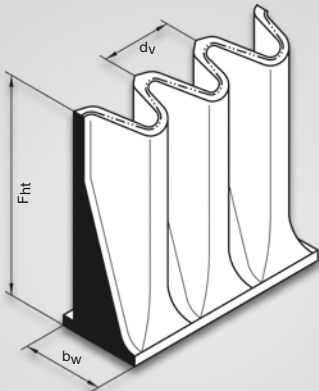
**Typ XUE** ...reduces transverse deflection at return strand when carried on discs or inside idlers.



**Typ XST** ...heavy duty applications only requiring belt tension above 1000 N/mm with ES-type FLEXOWELL®-sidewalls up to 630 mm (24.8 inch) and cleats up to 600 mm (23.6 inch).



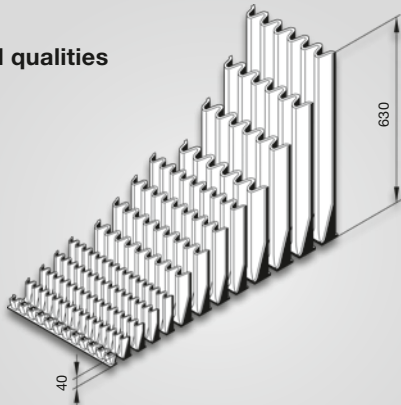
## Sidewall sizes



Type	height Fht mm	width bw mm	pitch dv mm
<b>L</b>	40	40	30
<b>N</b>	60	60	50
	80	80	50
	100	100	50
	120	120	50
<b>NV*</b>	60	60	50
	80	80	50
	100	100	50
	120	120	50
<b>S*</b>	120	120	78
	160	160	78
	200	200	78
	240	240	78
	280	280	78
	320	320	78
<b>ES*</b>	300	300	78
	400	400	100
	500	500	100
	630	630	100

\*with diagonal fabric reinforcement

## Sidewall qualities



Quality	L	N/NV	S	ES
<b>Y</b>	•	•	•	•
<b>GP</b>	•	•	•	
<b>T</b>	•	•	•	
<b>S</b>	•	•	•	•
<b>MSHA</b>	•	•	•	•
<b>vt</b>	•	•	•	•

all qualities antistatic

## Cleat profile sizes

Type	height mm
<b>T</b>	20
<b>T</b>	35
<b>TK</b>	40
<b>T</b>	55
<b>TK</b>	60
<b>T</b>	75
<b>TK</b>	75
<b>T</b>	90
<b>T</b>	100
<b>T</b>	110
<b>T-G</b>	110
<b>T-G</b>	120
<b>T-G</b>	140
<b>T-G</b>	160

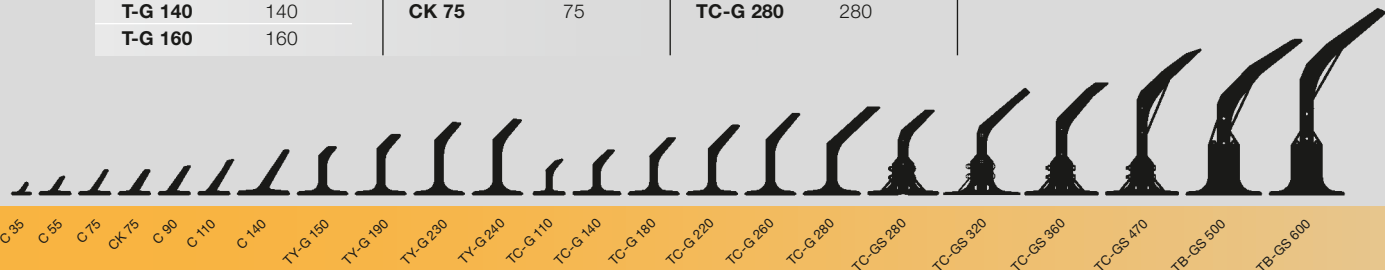
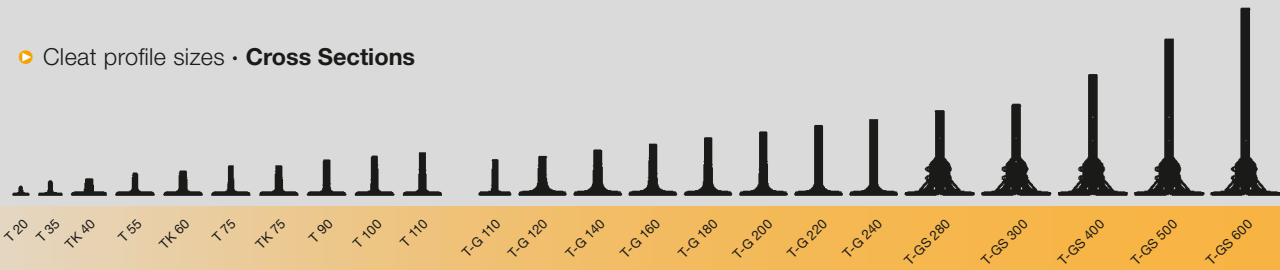
Type	height mm
<b>T-G</b>	180
<b>T-G</b>	200
<b>T-G</b>	220
<b>T-G</b>	240
<b>T-GS</b>	280
<b>T-GS</b>	300
<b>T-GS</b>	400
<b>T-GS</b>	500
<b>T-GS</b>	600
<b>C</b>	35
<b>C</b>	55
<b>C</b>	75
<b>CK</b>	75

Type	height mm
<b>C</b>	90
<b>C</b>	110
<b>C</b>	140
<b>TY-G</b>	150
<b>TY-G</b>	190
<b>TY-G</b>	230
<b>TY-G</b>	240
<b>TC-G</b>	110
<b>TC-G</b>	140
<b>TC-G</b>	180
<b>TC-G</b>	220
<b>TC-G</b>	260
<b>TC-G</b>	280

Type	height mm
<b>TC-GS</b>	280
<b>TC-GS</b>	320
<b>TC-GS</b>	360
<b>TC-GS</b>	470
<b>TB-GS</b>	500
<b>TB-GS</b>	600

Sidewall and cleat profiles are available in the same quality. All listed dimensions are nominal dimensions

## Cleat profile sizes - Cross Sections



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**www.contitech-online.com**



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The ContiTech division of the Continental Corporation is a development partner and original equipment supplier to numerous industries for high-quality functional parts, components and systems. With its know-how in rubber and plastics technology, ContiTech contributes significantly to industrial progress and mobility that is safe, comfortable and eco-friendly.

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