

FLEXOWELL[®]

Belts for safe and efficient steep inclined and vertical conveying up to 90°.

FLEXOWELL®

Worldwide the number 1
for up- and downhill
conveying for bulk
material of all kinds.



*Continental conveyor
belt technology for
safe steep inclined and
vertical conveying*

Continental Conveying Solutions

We are the leading expert for conveyor system solutions offering customers worldwide the most complete and advanced product, technology and service portfolio for industry and mining applications. We support our customers, partners, and distributors with a growing range of value-added services along the entire lifetime of a conveyor system operation, from planning and commissioning, to technical advice, training, digital conveyor monitoring, and on-site maintenance. Our cost-effective, sustainable, safe and innovative conveying solutions reduce down-times through state-of-the-art monitoring and predictive maintenance.

We support mining, construction and plant engineering projects around the world as development partner. Customers benefit from an experience of more than 140 years in high-performance conveyor belts. A network of 1,300 experienced service technicians covers key regions including Africa, Asia, Australia, Europe, North America, and Latin America. With this unique expertise and global footprint, Continental is close to its customers providing not only high-quality, long-life products, but also comprehensive support and service - tailored to customers' specific needs and requirements.



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 15,000 installations throughout the world for the benefit of our customers. The vertical FLEXOWELL® S-system shown on previous page 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.

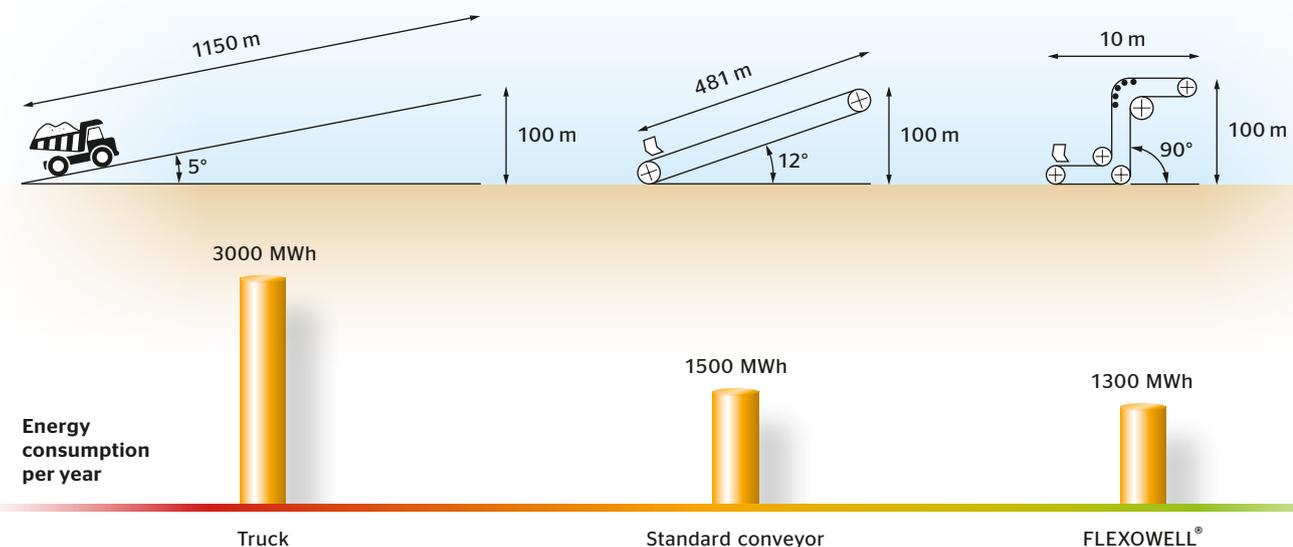
The advantages provided to plant engineers and operators are:

- › Quick installation
- › Reduced number of transfer points
- › Long service life
- › Reduced power requirements
- › Quiet running
- › Reduced maintenance
- › Environmentally friendly

Sustainable solution:

- › FLEXOWELL® conveyor belts help to decrease property ground costs compared to standard conveyor belts, a shorter belt is needed for same conveying lift compared to standard belt.
- › FLEXOWELL® conveyor belts provide power saving solution compared to transport with standard belts or trucks.

See example below with estimated yearly energy consumption (7860 working hours) for transport of 500 tons/h over 100 m (328 ft) conveying lift with truck, standard conveyor and FLEXOWELL®.



FLEXOWELL®

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

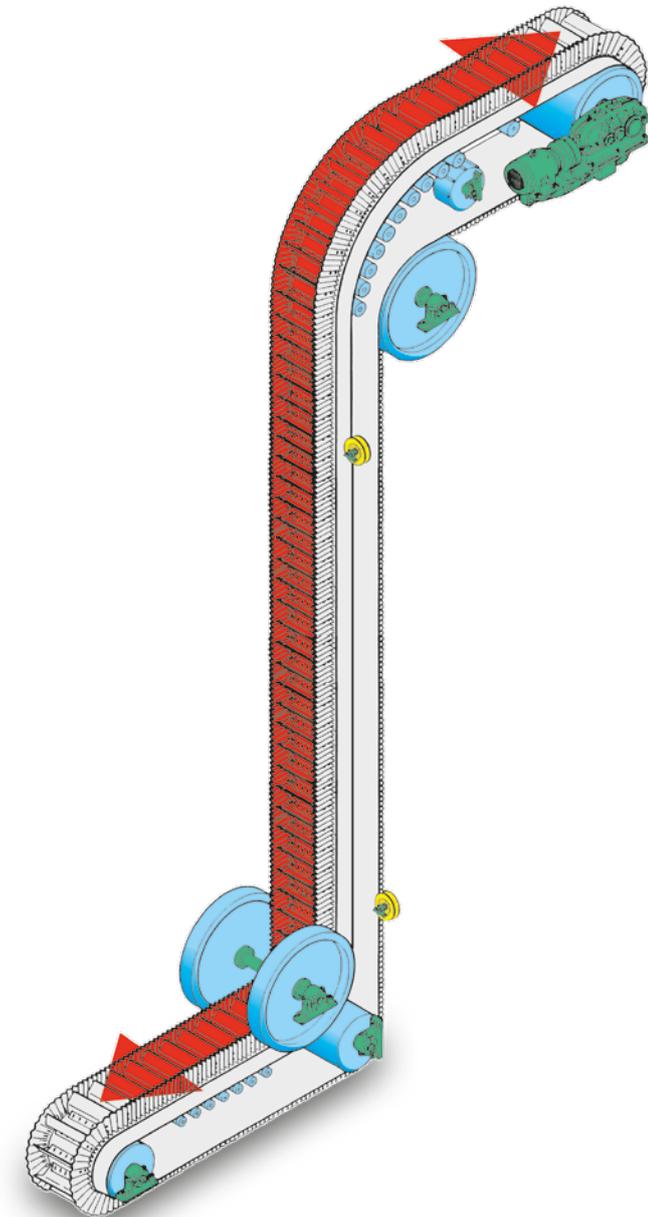
The corrugated sidewalls and cleats are fitted to the base belt by cold or hot vulcanization. The cleats are screwed to the sidewalls. Cold bonded sidewalls and cleats can be replaced quickly and easily, if needed. Sidewalls and cleats are available from 20 mm (0.79 inch) to 630 mm (24.8 inch) high. Hot vulcanization is suggested for conveying hot materials, otherwise can be offered as an option.

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:

- › Underground mining (ore or coal)
- › Shaft conveying for tunnelling and underground mining
- › Steel industry
- › Ship loading and unloading, ship to ship loading
- › Coal and wood-chip fired power stations
- › 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



FLEXOWELL®

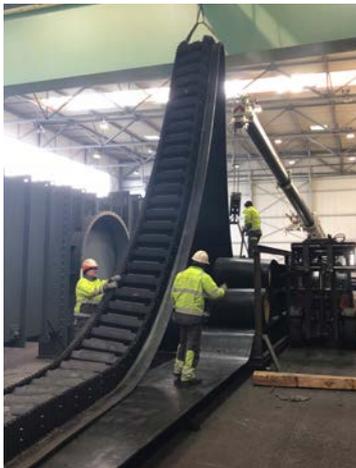
Continental Conveying Solutions – Your partner for Increasing Productivity

Continental Conveying Solutions 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 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
- Splicing and installation of belt

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

- › Over 15,000 installations worldwide
- › Most experience: FLEXOWELL® technology in practical operation since 1964
- › Highest performance: 400 m (1,321 ft) vertical up to 2,000 t/h (2,204 st/h)
- › Vertical conveying: up to 500 m (1,640 ft) possible
- › Widest belts: 2.4 m (7.87 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°**

FLEXOWELL®

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 are normally used.

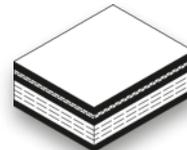
This exclusive base belt is the superior feature of the FLEXOWELL® design and represents a complete technical system together with the corrugated sidewalls and cleats.

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.

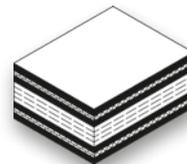
› Cross-rigid fabric and steelcord belts



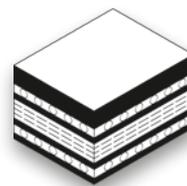
Type XE ...light duty FLEXOWELL® applications only. Available in strengths XE250/2 and XE400/3.



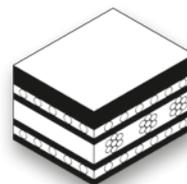
Type XOE ...in use for medium and heavy duty application.



Type XE+2 ...increased cross-rigidity for medium and heavy duty applications.



Type XESB ...belts for applications when extreme cross rigidity is needed.



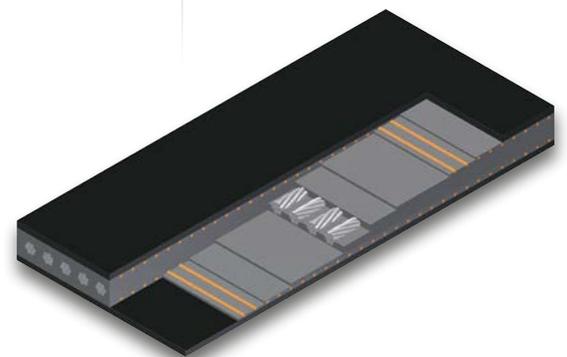
Type XST ...heavy duty applications only requiring belt tension above 1000 N/mm with steel cord base belt.

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

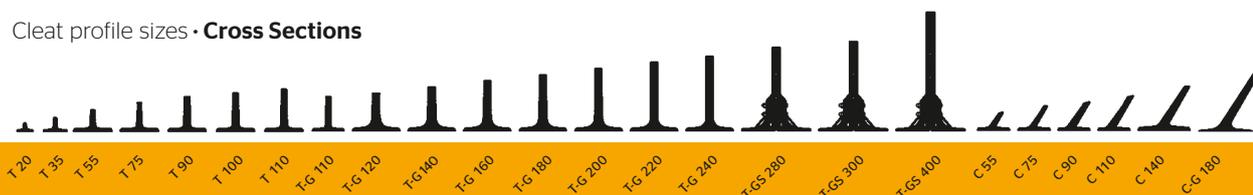
Defender FL	standard, abrasion resistant
Solar-Shield Classic FL	heat resistant
Gold Plus FL	oil resistant
Shield YS FL	flame resistant (ISO 340/EN 20340)
Shield vt FL	self-extinguish (aboveground application)

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

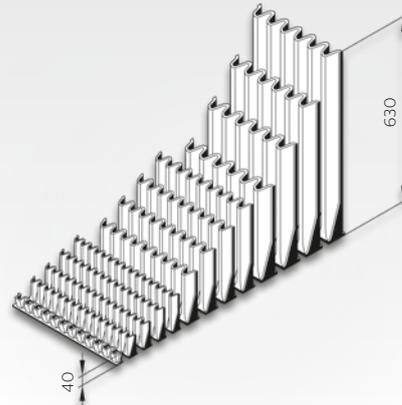
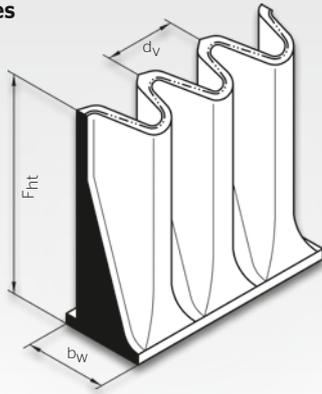
Defender FL	standard, abrasion resistant
Gold Plus FL	oil resistant*
Solar-Shield Classic FL	heat resistant
Shield K FL	flame resistant (ISO 340/EN 20340)
Shield vt FL	self-extinguish (aboveground application)
	*on request



› Cleat profile sizes • Cross Sections

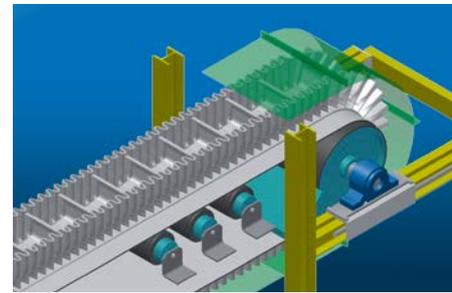


› Sidewall sizes



Type	height	height	width	pitch
		F _{hnt} mm	b _w mm	d _v mm
L	40	40	30	35
N	60	60	50	42
	80	80	50	42
	100	100	50	42
	120	120	50	42
NV*	60	60	50	42
	80	80	50	42
	100	100	50	42
	120	120	50	42
S*	120	120	78	63
	160	160	78	63
	200	200	78	63
	240	240	78	63
	280	280	78	63
	320	320	78	63
ES*	300	300	78	63
	400	400	100	84
	500	500	100	84
	630	630	100	84

*with diagonal fabric reinforcement



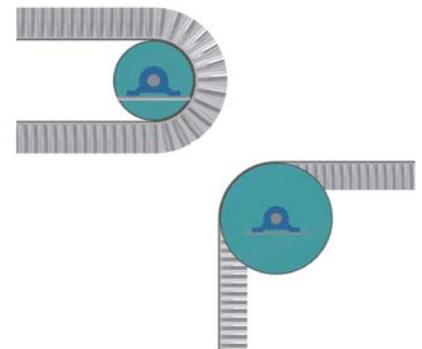
› Sidewall qualities

Quality suitable with	L	N/NV	S	ES
Defender FL	•	•	•	•
Gold Plus FL	•	•	•	
Solar-Shield Classic FL	•	•	•	
Shield YS FL	•	•	•	•
Shield vt FL	•	•	•	•

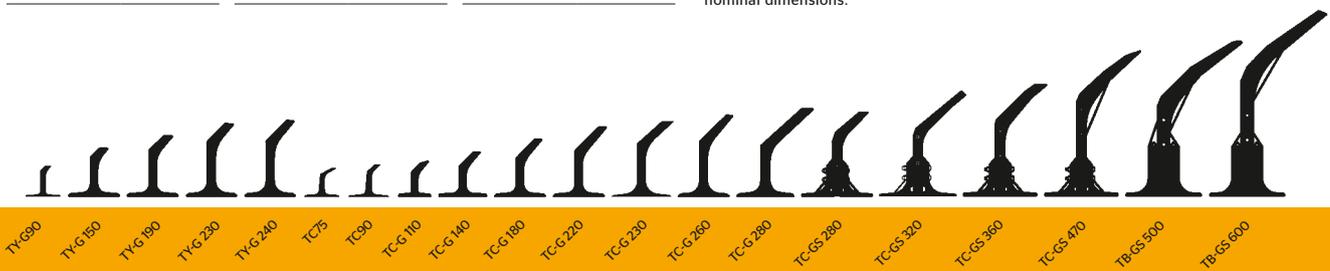
all qualities antistatic

› Cleat profile sizes

Type	height mm	Type	height mm	Type	height mm	Type	height mm
T20	20	T-G 200	200	TY-G 90	90	TC-G 260	260
T35	35	T-G 220	220	TY-G 150	150	TC-G 280	280
T55	55	T-G 240	240	TY-G 190	190	TC-GS 280	280
T75	75	T-GS 280	280	TY-G 230	230	TC-GS 320	320
T90	90	T-GS 300	300	TY-G 240	240	TC-GS 360	360
T100	100	T-GS 400	400	TC75	75	TC-GS 470	470
T110	110	C 55	55	TC90	90	TB-GS 500	500
T-G110	110	C 75	75	TC-G 110	110	TB-GS 600	600
T-G120	120	C 90	90	TC-G 140	140		
T-G140	140	C110	110	TC-G 180	180		
T-G160	160	C140	140	TC-G 220	220		
T-G 180	180	C-G 180	180	TC-G 230	230		



Design of cleats T-GS, TC-GS and TB-GS consists of cleat, foot and assembling elements. Sidewall and cleat profiles are available in the same quality. All listed dimensions are nominal dimensions.



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