

FLEXOWELL®

from horizontal to vertical...

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

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.

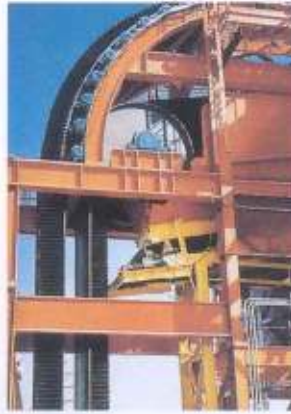
The corrugated sidewalls and cleats are fitted to the base belt (cold vulcanization). The cleats are screwed to the sidewalls and can be replaced quickly and easily, if need be.

Sidewalls and cleats are both available from 40 (1.58") to 630 mm (24.8") high.

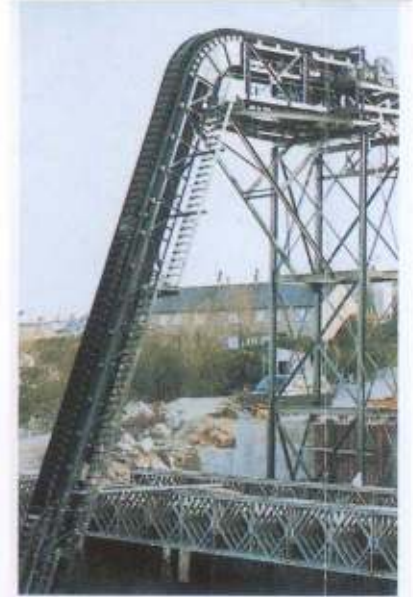
FLEXOWELL®-conveyor belts are supplied in standard black rubber quality of high abrasion resistance. In addition, other qualities such as heat and oil resistant or flame retardant rubber can be supplied.

The 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") can be handled easily with FLEXOWELL®-conveyor systems. Materials can be carried over 500 m (1,640') in vertical lift with capacities from 1m³/h up to 6,000 t/h.

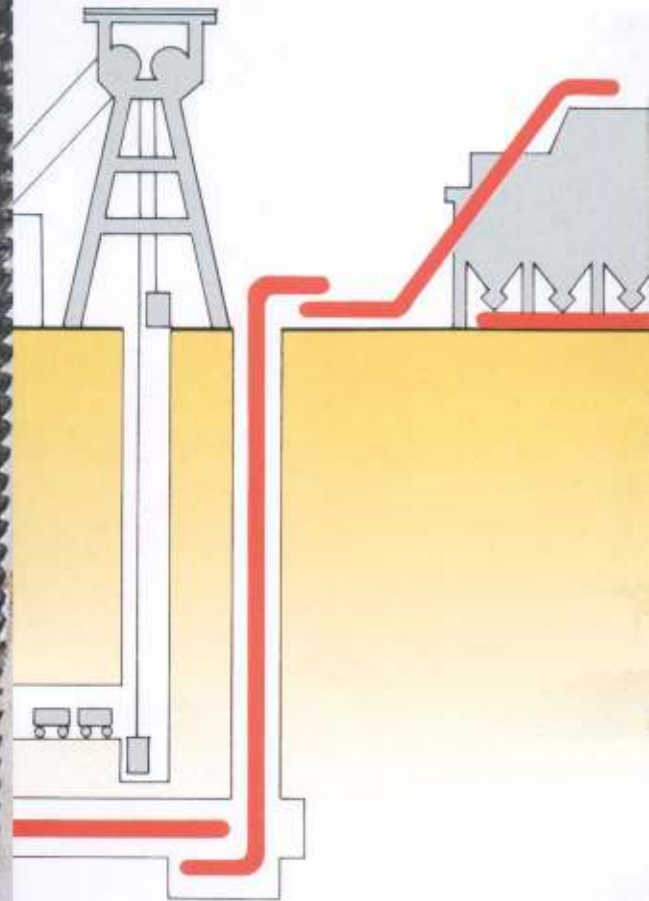
*Pictures front cover:
FLEXOWELL®-conveyor belts in operation as
FLEXOLIFT®-systems conveying sand, grain, coal,
limestone and crushed granite.*



*Tunnelling,
limestone, 1,200 t/h*



*Quarry,
limestone, 700 t/h*



*Tunnelling,
limestone, 1,200 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

Your partner for Increasing Productivity

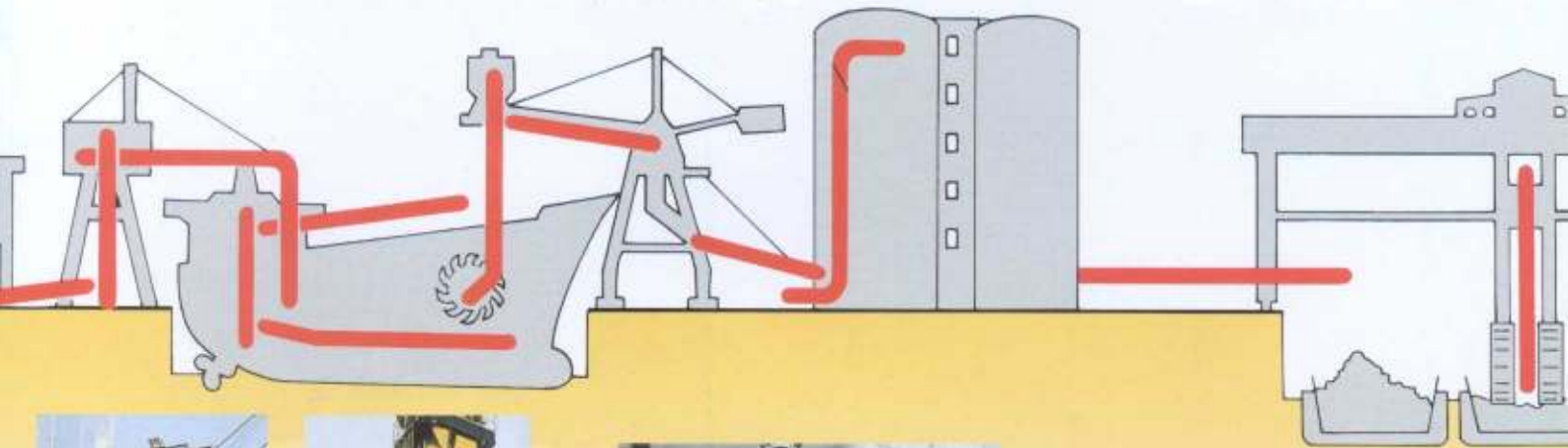
In the field of bulk material handling, **Metso Minerals (Moers) GmbH**, Product Group Flexowell, offers the full range of service work for conveyor belting and systems of high productivity.

The Metso customers – plant engineers, constructors and operators – can rely on many years of practical experience and speedy, target oriented assistance.

- 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 inspections carried out in the framework of service contracts or inspection service contracts only with recording of results



Shiploading,
coal, 3,000 t/h



Shiploader,
coal, 3,000 t/h



mobile ship unloader,
coal, 1,500 t/h



FLEXOWELL®-conveyor belts
with centre profile,
2 gravel sizes, each 80 t/h



Ship unloading,
coal, 4,000 t/h



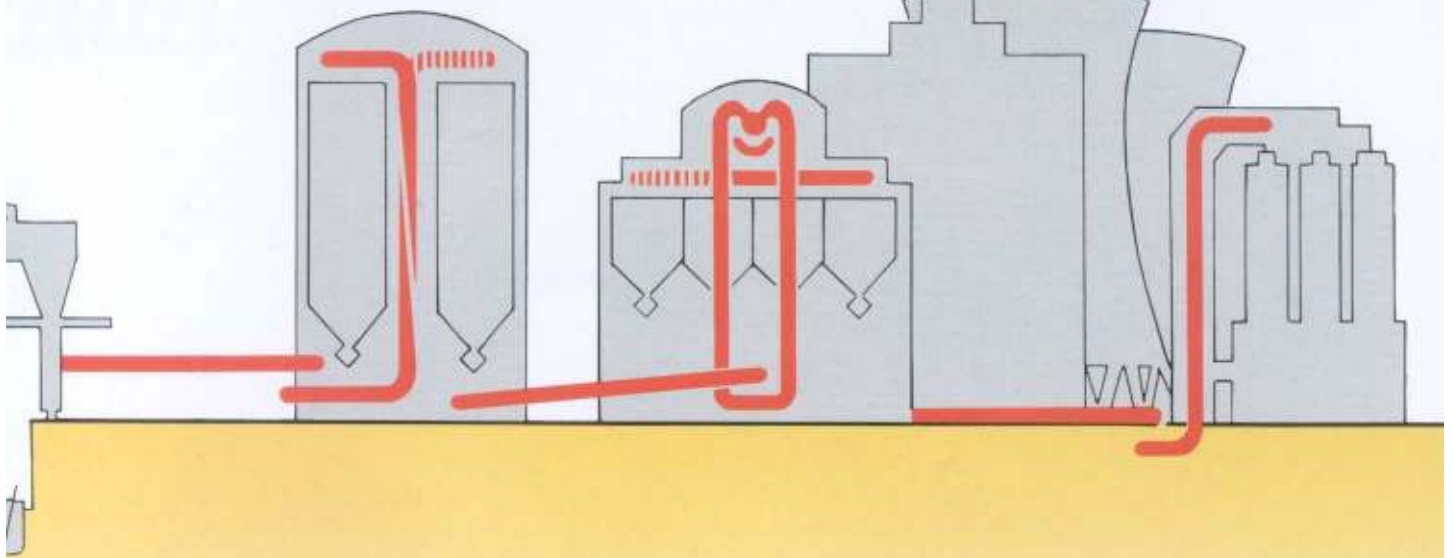
Self unloading vessel,
iron ore, 5,000 t/h

FLEXOWELL®



*FLEXOTURN®,
Torsion angle 180°*

*Concrete mixing plant,
sand and gravel, 200 t/h*



*Inner conveyor, bottom station
ferro-alloy, 250 t/h*



*Silo feeding,
sand and gravel, 250 t/h*

**– faster,
cleaner, economical...**

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.

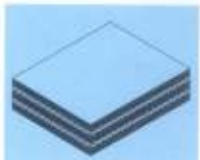
Cross-rigid fabric belts listed here are available in these qualities

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

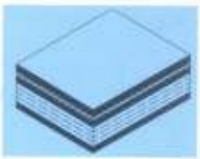
Cross-rigid steelcord belts listed here are available in these qualities

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

Cross-rigid fabric and steelcord belts



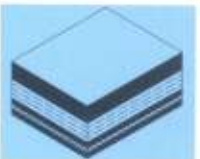
Type XE ...light duty FLEXOWELL®-applications only.



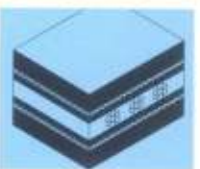
Type XOE ...reduces transverse deflection at wheels and stub idlers.



Type XDE ...medium and heavy duty special applications only.

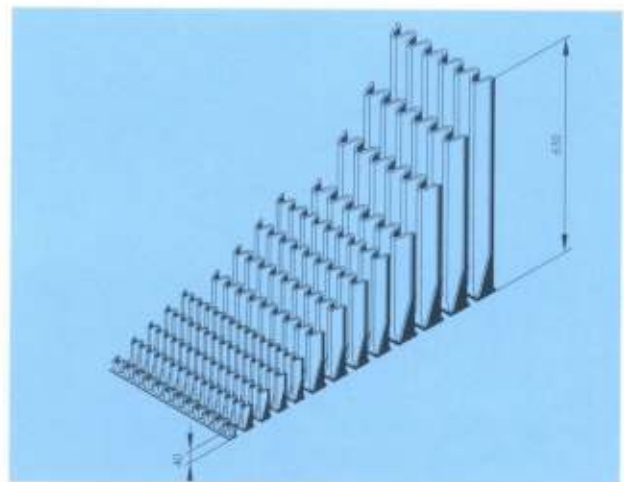


Type XUE ...reduces transverse deflection at return strand when carried on discs or inside idlers.



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

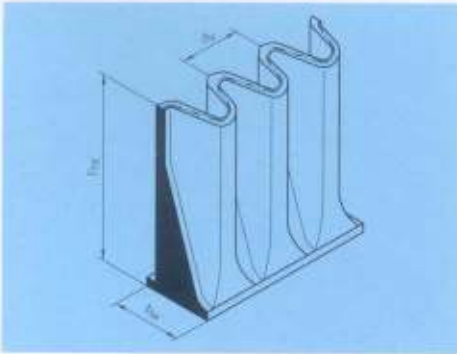
Sidewall qualities



Quality	L	N	S	ES
Y	x	x	x	x
GP	x	x	x	
T	x	x	x	
S	x	x	x	x
MSHA	x	x	x	x
vt	x	x	x	x

all qualities antistatic

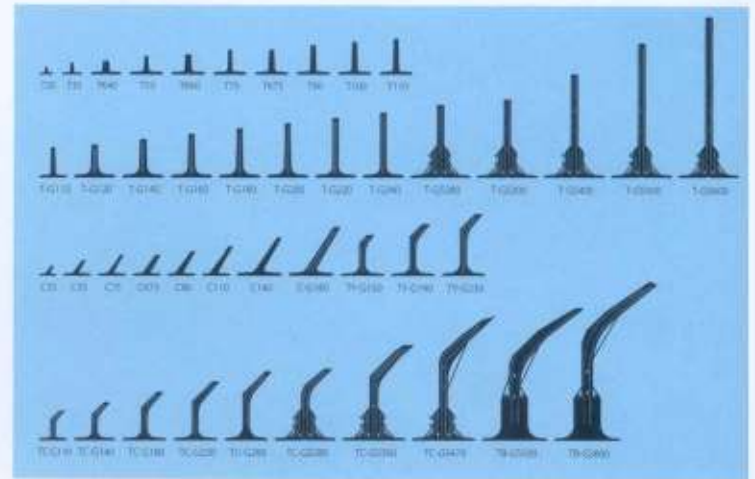
Sidewall sizes



Type	height F _{ht} mm (inch)	width b _w mm (inch)	pitch d _v mm (inch)
L 40	40 (1.6)	30 (1.2)	35 (1.4)
N 60	60 (2.4)	50 (2.0)	42 (1.7)
80	80 (3.1)	50 (2.0)	42 (1.7)
100	100 (3.9)	50 (2.0)	42 (1.7)
120	120 (4.7)	50 (2.0)	42 (1.7)
S* 120	120 (4.7)	78 (3.1)	63 (2.5)
160	160 (6.3)	78 (3.1)	63 (2.5)
200	200 (7.9)	78 (3.1)	63 (2.5)
240	240 (9.4)	78 (3.1)	63 (2.5)
280	280 (11.0)	78 (3.1)	63 (2.5)
ES*300	300 (11.8)	100 (3.9)	84 (3.3)
400	400 (15.7)	100 (3.9)	84 (3.3)
500	500 (19.7)	100 (3.9)	84 (3.3)
630	630 (24.8)	100 (3.9)	84 (3.3)

* with diagonal fabric reinforcement

Cleat profile sizes



Type	height mm (inch)	Type	height mm (inch)
T 20	20 (0.8)	C 35	35 (1.4)
T 35	35 (1.4)	C 55	55 (2.2)
TK 40	40 (1.6)	C 75	75 (3.0)
T 55	55 (2.2)	CK 75	75 (3.0)
TK 60	60 (2.4)	C 90	90 (3.5)
T 75	75 (3.0)	C 110	110 (4.3)
TK 75	75 (3.0)	C 140	140 (5.5)
T 90	90 (3.5)	CG 180	180 (7.1)
T 100	100 (3.9)	TY-G 150	150 (5.9)
T 110	110 (4.3)	TY-G 190	190 (7.5)
T-G 110	110 (4.3)	TY-G 230	230 (9.1)
T-G 120	120 (4.7)	TC-G 110	110 (4.3)
T-G 140	140 (5.5)	TC-G 140	140 (5.5)
T-G 160	160 (6.3)	TC-G 180	180 (7.1)
T-G 180	180 (7.1)	TC-G 220	220 (8.7)
T-G 200	200 (7.9)	TC-G 260	260 (10.2)
T-G 220	220 (8.7)	TC-GS 280	280 (11.0)
T-G 240	240 (9.4)	TC-GS 360	360 (14.2)
T-GS 280	280 (11.0)	TC-GS 470	470 (18.5)
T-GS 300	300 (11.8)	TB-GS 500	500 (19.7)
T-GS 400	400 (15.7)	TB-GS 600	600 (23.6)
T-GS 500	500 (19.7)		
T-GS 600	600 (23.6)		

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

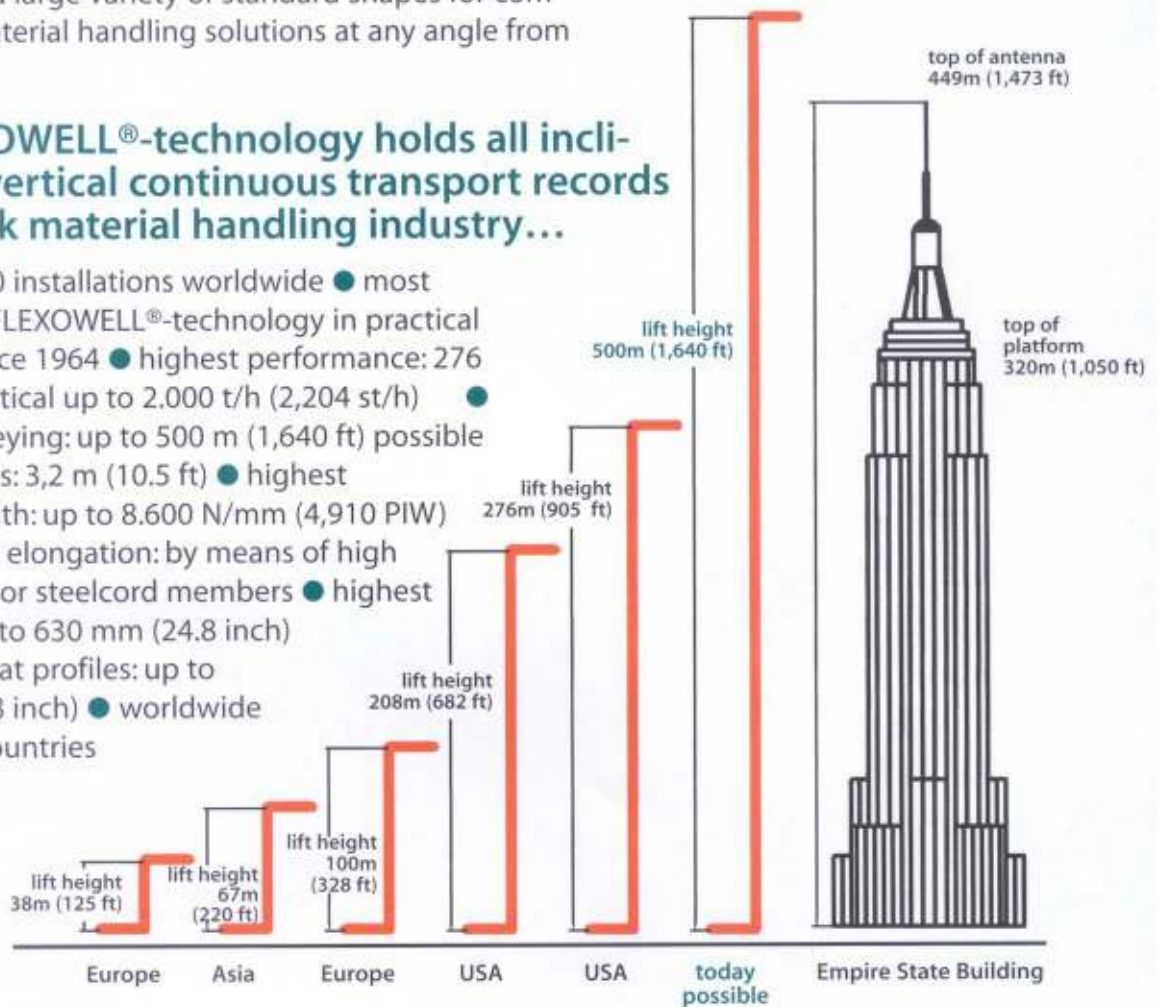
FLEXOWELL®

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 outline of FLEXOWELL®- systems shown below offers a large variety of standard shapes for complete bulk material handling solutions at any angle from 0° to 90°.



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



Conveyor belts for steep inclined and vertical conveying – our range:

FLEXOWELL®, FLEXOLIFT®, FLEXOFAST®, FLEXOTURN®-conveyor belts as well as POCKETLIFT®-Systems, for space saving horizontal, steep inclined and vertical bulk materials handling for silo feeding, shaft conveying for tunnelling, open pit and underground mining, mobile ship-loaders and ship unloaders and self unloading vessels...

All other conveyor belting is available in the range of Trellex conveyor belts by Metso Minerals.

FLEXOWELL®, FLEXOLIFT®, FLEXOFAST®, FLEXOTURN®, POCKETLIFT®, POCKETROPE® are registered trademarks

Sales and Production
**Product Group Flexowell
National and International**

Metso Minerals (Moers) GmbH
P.O. Box 10 22 28
Clausthalstr. 2
D-47441 Moers, Germany
Phone: +49 - 2841 - 14 40
Fax: +49 - 2841 - 14 41 29

www.flexowell.net
www.metsominerals.com

International Sales Offices

North and Central America

Metso Minerals Canada Inc.
30 Franklin Street
Belleville, ON K8N 5C8
Canada
Phone: +1 613 962 3411
Fax: +1 613 962 3419

South America

Metso Minerals (Brazil) Ltda.
Av. Independência, 2.500 Éden,
18087 - 050 Sorocaba
SP Brazil
Phone: +55 15 2102 1300
Fax: +55 15 2102 1699

Asia-Pacific

Metso Minerals (Asia Pacific) Ltd.
16 Lidco Street
Arndell Park NSW 2146
Australia
Phone: +61 2 8825 1675
Fax: +61 2 8825 1662

South Africa

Metso Minerals South Africa (Pty) Ltd.
41 Wordworth Avenue
Senderwood
P.O. Box 1599
Houghton, 2041
South Africa
Phone: +27 11 723 2020
Fax: +27 11 723 2042

