

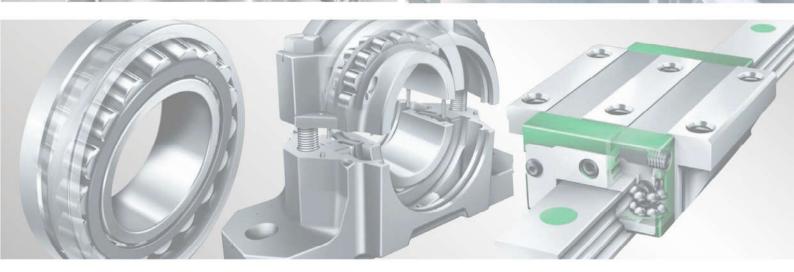
ContiTech



# SOLUÇÕES PARA A INDÚSTRIA CIMENTEIRA







**Conveyor Belt Group** 

Complete solution for the cement industry





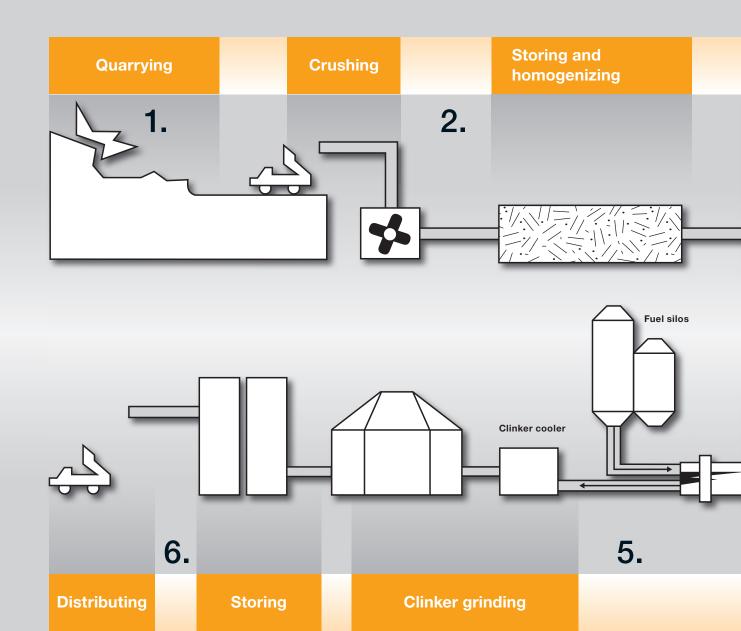
# ContiTech Conveyor Belts Perfect conveyor belt technology for every application worldwide

Our rubber processing expertise, combined with our skills in bonding this material to tensile members, enable us to produce heavy-duty belt constructions with special properties.

The extremely tough operating conditions that prevail in the cement industry mean that a variety of demands are placed upon the conveyor belts used. Thanks to our many years of experience in this special field, we can offer complete solutions from one single source – for all

phases of cement production, from quarrying to delivery, and a premium quality product every time. Our range includes textile and steel cord conveyor belts, special-purpose conveyor belts and service materials.

We are aware of the importance of eco-friendly systems and conveyor technology, and consistently implement our ideas for a greener world. In addition to providing full consultancy and support, we also supply conveyor system maintenance and servicing.

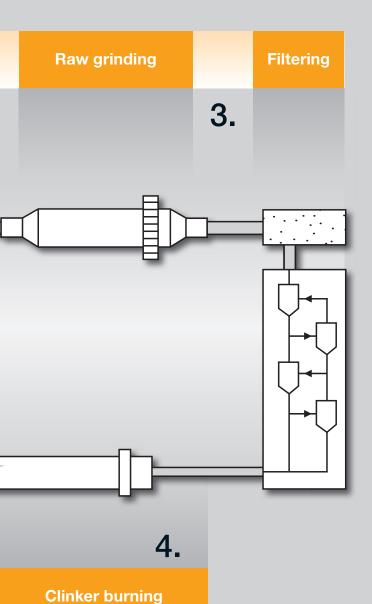




As a partner of the cement industry, we guarantee optimum installation and supervision of the conveyor units and conveyor belts by our application engineers on site. We always use the latest technology to offer you technically and economically optimized conveyor solutions that are geared to the application in question.

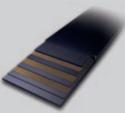
#### ContiTech.

Non-stop conveyor belts. Non-stop service.



#### 1. Quarrying

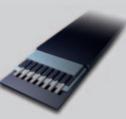
○ CONTIFLEX® RipProtect



#### 2. Moving materials

(after crushing for storage)

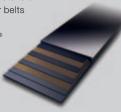
- STAHLCORD® steel cord conveyor belts
- Tube conveyor belts
- EPP textile conveyor belts



#### 3. In-plant transportation

(from raw material grinding to and beyond filtering)

- Abrasive supplementary materials: ContiClean® A-H conveyor belts (using rubber-scraper)
- Conventional CONTIFLEX® fabric-reinforced belts
- FLEXOWELL® corrugated sidewall belts



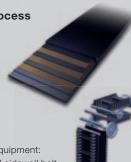
#### 4. Burning process - clinker burning

- CONTIFLEX® OIL conveyor belts
- SICON® conveyor belts



#### 5. After the burning process

 CONTIFLEX® VULKAN conveyor belts



#### 6. Packaging, loading

Metering and weighing equipment: FLEXOWELL® corrugated sidewall belt for steep-angle conveying: FLEXOTURN®





#### **CONTIFLEX® RIP-PROTECT**

Textile conveyor belts with slit protection

The conveyor belts installed at the start of cement production must be able to perform in extreme conditions. After the limestone blocks have been crushed, they are carried by a conveyor belt to their next destination. This is where belts must be capable of handling heavy impacts and heavy lump weights, and so these belts incorporate a fabric-ply or steel breaker in their structure to protect the tension member.

Our CONTIFLEX® RIP-PROTECT conveyor belt is ideal for transporting the up to 300 mm crushed rock as it features special slit protection properties in addition to an EP fabric-ply tension member. Its highly wear-resistant top cover has steel cable transverse reinforcement, making it much harder for foreign objects and sharpedged materials to penetrate into the heavy-duty belt construction.

CONTIFLEX® Fleximat IW/TW/SW belt types are also beneficial for systems with a large center distance that are exposed to heavy strain due to sharp-edged materials. Our application engineering experts will be happy to advise you on these aspects.



# STAHLCORD® steel cord conveyor belts



The crushed limestone is generally transported by means of conveyor belts which have to cover very long distances. STAHLCORD® conveyor belts are used here. Thanks to their structure, they can resist high impact energy and are easily troughable. Transverse reinforcement can be worked into the belt structure to improve impact resilience even further.



#### **Tube conveyor belts**

Tube conveyor belts are another alternative for transporting crushed limestone. These belts are formed into a roughly circular cross section along the route of the structure but stay flat when passing through the drive, take-up and bend pulleys. The conveyor belt is equipped with fabric or steel cable tension members. At the loading point, the belt is troughed and the materials are fed onto the belt in the conventional manner. The enclosed design of the tube conveyor belt prevents dust and dirt from escaping and protects the materials from rain, snow and wind.

#### Further advantages:

- Flexible system configuration with tight horizontal curves and tight vertical radii
- Conveyor can negotiate tight curves requiring little space, so it can be adapted well to the terrain
- Short take-ups for the conveyor belt
- Since the system is closed, it usually does not need to be encased.



## **EPP** textile conveyor belts

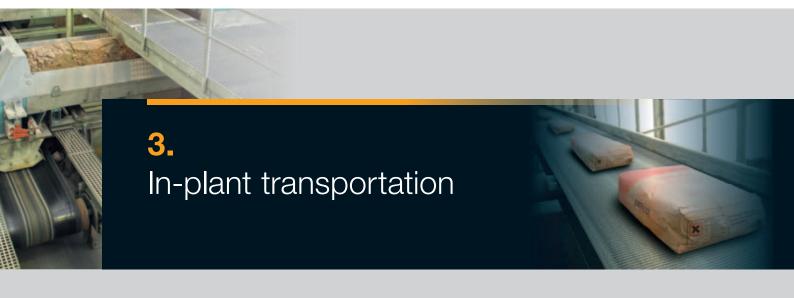


As a specialist in rubber technology and a leading manufacturer of conveyor belts, we attach considerable importance to continuous further development of our products in order to offer you the best possible customer-specific solutions. EPP conveyor belts have been developed by our application engineers for the toughest demands, and are available with a single-ply (CON-MONTEX®) and a double-ply (CON-BITEX®) carcass. The special structure of these belts can absorb extreme loads such as impact and tensile energy, and leads to very low elongation.

EPP conveyor belts can thus be produced in all standard materials to meet your requirements.

#### Advantages:

- High utilization of strength
- Increase in productivity and conveying capacity thanks to low maintenance intervals
- Extremely low elongation



#### ContiClean® A-H

During this stage of production, especially, the problem of caking and contamination of the conveyor belt cover occurs more frequently. As the effort involved in cleaning and the costs for procuring, installing and servicing belt cleaning systems or scrapers are high, we have developed an innovative conveyor belt with a special plastic coating. The anti-stick coating of the ContiClean® A-H prevents the cement's supplementary materials from sticking to the belt.

By using the ContiClean® A-H cleaning costs can be minimized and belt life can be extended due to the reduced cover wear and less soiling on the return run.



### **CONTIFLEX®** EP conveyor belts

Depending on the application, conventional CONTIFLEX® fabric-reinforced conveyor belts can also be used. Thanks to the robustness of their EP plies, they can be used for many purposes. These belts are easily troughable and offer superb operational reliability and durability even when small pulley diameters are used.

CONTIFLEX® belts with EP fabric plies are available in widths of up to 3,200 mm and with strengths ranging from EP 250/2 to EP 3150/5. The cover thicknesses can be selected to suit the intended application.

#### **FLEXOWELL®**

#### Corrugated sidewall belts

Another way of conveying the milled limestone is to use FLEXOWELL® corrugated sidewall belts for the horizontal, steep and vertical transportation of bulk goods. One of the key benefits of the FLEXOWELL® belt is that the conveyor system can be guided from horizontal operation to an inclined run, once or several times over a short distance, using just one single belt.

#### Advantages:

- Fast installation
- Fewer material transfer points required
- Long service life
- Very energy efficient
- Low-noise operation
- Service and environment-friendly

FLEXOWELL® belts are available in a normal, highly wear-resistant version, although they can also be supplied with heat-resistant, oil- or flame-resistant qualities.

# 4.

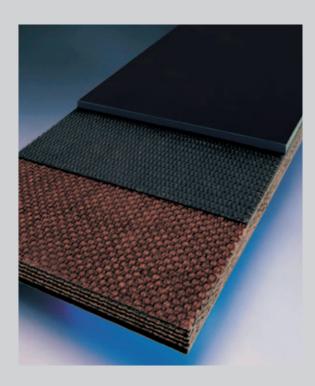
# Burning process - clinker burning

#### **CONTIFLEX® OIL**

Textile conveyor belts with oiland grease-resistant covers

During the burning process in a cement plant, energy sources such as coal and oil are used to generate energy. In conventional conveyor belts, the cover absorbs the liquids, and this means the conveyor belt may swell after some time. CONTIFLEX® OIL belts, however, are ideal for this stage of production thanks to their oil- and grease-resistant cover.

Depending on the degree of oily and greasy materials coming into contact with the belt, CONTIFLEX® OIL can be supplied in different designs with special properties (i.e. various stages of oil resistance, flame resistance etc.).



#### **SICON®**

Enclosed belt conveyor system

Environment-friendly transport of bulk materials is an important factor for us. For this reason, we have developed the SICON® conveyor belt, which consists of highly flexible rubber capable of forming a pear-shaped bag. Supporting profiles are vulcanized onto both ends. They serve as tracks for the belt's support rollers and guide rollers. Steel cord reinforcements are vulcanized into the center of the supporting profiles. These cords absorb all the tensile stress from the conveyor drive system. As the profiles are arranged above one another, the belt is closed to form a dust-tight bag. Another advantage of this arrangement is that it enables the belt to incline to the side so that the cornering radius works out to less than a meter.

#### Further advantages:

- Two-way conveyor system: the belt can be loaded in both directions, varying routing possible for outward and return runs
- Capable of negotiating 180°C curves with a radius of less than 1 meter
- Several loading and discharging stations can be set up

#### **CONTIFLEX® VULKAN**

Temperature-resistant conveyor belts

CONTIFLEX® VULKAN conveyor belts are ideal for transporting hot clinker as their covers are ultra-heat-resistant and able to withstand peak temperatures of up to 220°C, thus guaranteeing protection of the belt's tension member.

Conveyor belts without heat-resistant properties can withstand temperatures up to 80°C at a maximum, and therefore cannot be used for handling hot clinker, for example. We also have a wide selection of cover qualities available for our CONTIFLEX® VULKAN conveyor belts to satisfy your specific requirements (i.e. with regards to various temperatures and elastomers).

#### Innovation

The ContiTech Conveyor Belt Group is currently working on another innovation which will further increase the heat resistance of CONTIFLEX® VULKAN. Our application engineering specialists will be pleased to provide you with further details.



# 6.

# Packaging and loading



#### **FLEXOWELL®**

Corrugated sidewall belts for steep-angle conveying

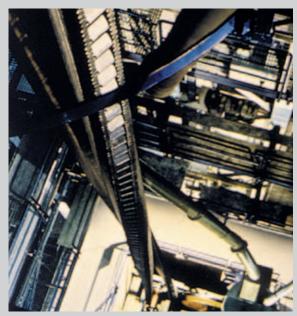
Flexowell® corrugated sidewall belts are a highly effective long-term solution for elevating bulk materials in the cement industry.

These steep-angle and vertical conveyor belts can be used, for instance, at the end of the production chain once the material temperatures have fallen below 100°C. Metering, packaging and loading are the most interesting fields of application. In a vertical conveying configuration, Flexowell® has an extremely low space requirement. Flexowell® belts are flexible in a longitudinal direction while still featuring high transverse rigidity, which is required for steep and vertical applications.



#### **FLEXOTURN®**

With the special "FLEXOTURN®", version, the loading and discharge points can be turned up to 180° in order to accommodate different feed and delivery systems. A conveyor design with short infeed and offloading lengths ensures that the materials are transported with care, without scooping and without additional transfer points.



## **Splicing materials**

To ensure optimum splice strength and a long service life, we recommend that only ContiTech splicing materials be used to splice conveyor belts.

# System protection/ Belt maintenance/ Transfer of forces Belt cleaning

#### Correx<sup>®</sup>

with smooth surface

The surface of conveyor structure is subject to corrosion and wear. This is an undesirable effect, reducing service life and increasing maintenance and downtime costs. Correx® linings reduce the likelihood of such undesirable effects and enhance productivity.



## Correx<sup>®</sup> with profiling

In order to improve the friction coefficient between the belt surface and the drive pulley, and to ensure friction grip even under unfavorable drive conditions (e.g. moisture or contamination), the pulleys are covered with profiled rubber or ceramic lagging.



#### Conrema®

Repair materials

The serviceability and service life of a conveyor depends on the maintenance of the system and its conveyor belt. Conrema® cold repair materials make it possible to keep downtime to a minimum.

#### **Adhesives & Solutions**

Current State of the art is to employ cold bonding with industrial adhesives for certain work instead of hot vulcanization, as was previously the case. This saves time and money and can be applied in many areas. Special care must be taken to ensure that solvents are handled in accordance with the processing instructions as they may otherwise cause serious damage to health.

- ContiSecur® BFA / Activator (cold bonding)
- ContiPlus® (primer)
- RCE cleaning solvent



#### **Combi scrapers**

ABS scrapers with a smooth surface and without a tacky back can be used to clean the belt surface. These are available in different designs with a variety of shore hardness values.



Conveyor belts are a suitable means of transporting raw materials and other bulk materials in large quantities from A to B within a short space of time. Higher efficiency, a major reduction in CO<sub>2</sub> emissions and in energy consumption, virtually no negative impact on the natural environment, and the possibility, under ideal circumstances, of generating electric power as well – these are a number of the ways ContiTech conveyor belt systems can serve the environment and, at the same time, provide economic benefits. Our conveyor belts are wear-resistant, low-maintenance, almost noise-free and require only a little energy. Our products thus lower the overall expense of handling materials in the long term.

Since acting in an environmental-friendly, quality-conscious manner is a firm element of our corporate philosophy, we consistently work on optimizing our products, for example by developing energy-optimized conveyor belts. Here, a special rubber compound minimizes the rolling resistance of conveyor belts, thereby lowering energy consumption in the transportation of materials by 20%. CO<sub>2</sub> emissions have been significantly reduced. With an installation of a belt conveyor of 5,000 m length and 30,000 t capacity per hour, savings of 8,900 t CO<sub>2</sub> per year can be reached. The energy saved equals approximately the consumption of 6,500 private households/year.

The idea behind acting in a responsible manner is also underlined by our uncompromising quality assurance program, with which we monitor all stages of the entire process, from the enquiry through to delivery, in accordance with the stringent ISO 9001 guidelines.



## www.contitech.de www.contitech-online.com



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Market segment Industry

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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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