Hoses
Feeder Hoses with wear monitoring
Our products
Hoses and fittings

Our technical experts are happy to advise you in detail. Specialists from a wide range of fields work on the optimal solution for you.

Our engineers and application technicians are ready to all meet challenges. They have a large background knowledge and many years of experience.

Please ask for our brochures:

– Rubber hoses
– Plastic hoses
– Chemical hoses
– Food hoses
– Food suction hoses
– Metal hoses
– Storz couplings
– Shell fittings with flange
– Kamloc couplings
– Food fittings
– Tank truck couplings
– Pressed aluminium shells
– Cardan couplings
– Dry couplings
and much more.

Hose service

– Fittings made of steel, stainless steel, brass, light metal and plastic are in stock!
– Binding of hoses
– Fast problem solving through by expert advice and execution!

Hose management

– Specification according to customer requirements
– Inventory and cataloguing
– Hose test incl. marking
– Deadline monitoring
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   Feeder hose with wear monitoring

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ceratel® 5910

Description

ceratel® 5910 is a robust high-performance material handling hose with black, corrugated cover, designed for the transport of extremely abrasive bulk materials. Ceramic platelets (Al₂O₃) are incorporated in the rubber lining of the hose with the result that abrasion resistance of the inner lining of ceratel® 5910 is considerably increased compared to conventional material handling hoses made of rubber or rubbercoated metal pipes.

The hose construction guarantees excellent flexibility which makes ceratel® 5910 a multi-purpose and cost efficient solution in process technology. The hose is easy to assemble and not only mechanical demands, such as vibrations, tensions and abrasion, but also chemical and thermal strains can be handled easily.

The high-performance material handling hose ceratel® 5910 is the combination of the reliable materials rubber and ceramic. The recommended coupling solution is our system GRANIT Select (see separate data-sheet).

Construction

(pneumatic and hydraulic conveying)

Inliner

ceramic platelets (Al₂O₃), incorporated in black, antistatic rubber

Reinforcement

textile inserts and steel spiral

(minimum burst pressure = 3.2 x operating pressure)

Cover

EPDM, black, antistatic, resistant to abrasion, ozone and UV

Temperature range

-40°C up to +120°C

Application

process and plant engineering, conveyor technology.

Media

Especially abrasive bulk materials such as ground glass, quartz sand, sand, metallic blasting abrasives, milled goods, powders and dusts. Also for primary fuels such as coal and coke.

Resistance

Ceramic platelets (Al₂O₃) are positioned in the rubber core of the hose in such a manner that they considerably increase the abrasion resistance of the core of the ceratel® 5910 as compared with commercial rubber feeder hoses or rubber lined metal pipes.

Special features

A signal cable is incorporated in the wall of the hose and is led outwards on both ends of the hose. With proper connection, the cable serves the purpose of signaling a critical degree of wear on the inner layer of the hose.

Please contact our Application Technology Department in the event of extreme loading capacities.
Feeder hose for highly abrasive bulk materials with wear monitoring

### Data table

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<th>Bending radius [min. mm]</th>
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**Description**

The GRANIT feeder hose is a robust version suitable for very strong chemical and mechanical requirements, such as vibration, stress and abrasion.

Elastomeric feeder hoses offer considerable advantages in planning and in operation compared to rigid pipe systems. Rubber is elastic, waterproof, airtight and more wear-resistant than metallic materials. Abrasion and corrosion have little chance. Elastomeric materials deform reversibly without damaging the structure. In contrast to hard materials, rubber elastically absorbs the motion energy of transported solids. The most suitable elastomer qualities can be determined for each process engineering condition. Thus, the greatest possible service life at maximum wear resistance becomes a calculable quantity.

**Construction**

(pneumatic and hydraulic conveying)

Inliner
SBR, black, conductive
Reinforcement
textile inserts and steel spiral
Cover
SBR, black, conductive

**Temperature range**

−40 °C up to + 80 °C

**Application**

process and plant engineering, conveyer technology

**Media**

Especially abrasive bulk materials such as ground glass, quartz sand, sand, metallic blasting abrasive, milled goods, powders and dusts. Also for primary fuels such as coal and coke.

**Resistance**

Inliner resistant against abrasion. The surface texture counteracts incrustation and sedimentation.

**Special features**

A signal cable is incorporated in the wall of the hose and is led outwards on both ends of the hose. With proper connection, the cable serves the purpose of signaling a critical degree of wear on the inner layer of the hose.

Please contact our Application Technology Department in the event of extreme loading capacities.
Feeder hose with wear monitoring

Data table

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<tr>
<th>Inner-Ø [mm]</th>
<th>Outer-Ø [mm]</th>
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**Description**

heavyl® 5980 is a high-performance feed hose, which is characterized by a particularly stable and abrasion-resistant inner layer. In hydraulic and/or pneumatic conveyance of highly abrasive flow media, the inner layer of heavyl® 5980 is exposed to highest stresses. High conveying speeds lead to, depending on the medium, impact and/or friction wear.

heavyl® 5980 is a product solution, which counteracts particularly the impact wear. In the rubber soul, metal platelets are vulcanized so that the hose is suitable for applications in which conventional rubber conveyor hoses are overstrained and in which even hoses with an inner layer of rubber/ceramic reach their limits.

In applications where especially secondary fuels (fluff) have to be conveyed, heavyl® 5980 has a good service life. Due to the combination of selected rubber compounds, especially in the rubber bed of the steelplatelets, heavyl® 5980 is suitable for a wide range of applications and shows an excellent wear resistance. We recommend our GRANIT Select coupling system as integration.

**Construction**

(pneumatic and hydraulic conveying)

Inliner
steel platelets (Hardox) embedded in black, antistatic rubber

**Reinforcement**
textile and steel spiral
(minimum burst pressure = 3,2 x operating pressure)

**Cover**
SBR, black, antistatic, resistant to abrasion, ozone and UV

**Temperature range**
−40 °C up to + 80 °C

**Application**
process and plant engineering, conveyor technology

**Media**
Secondary fuels (fluff), high mechanical strength like glass or batch.

**Resistance**
The inliner is made of vulcanized metal platelets for highly abrasive flow media.

**Special features**
A signal cable is incorporated in the wall of the hose and is led outwards on both ends of the hose. With proper connection, the cable serves the purpose of signaling a critical degree of wear on the inner layer of the hose.

Please contact our Application Technology Department in the event of extreme loading capacities.
# High-feeder hose with wear monitoring

## Data table

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**Description**
GRANIT UPE is a robust high-performance conveying hose with a black corrugated cover, designed for the transport of particularly abrasive bulk materials. Both mechanical stresses, such as vibrations, tensions, abrasion, as well as chemical and thermal strains can be equally handled.

The antistatic conveying hose GRANIT UPE is especially designed for the hydraulic conveying of chemical solids. The materials used for inliner and cover are antistatic. The electrical resistance of the hoses is between $1 \times 10^3$ and $1 \times 10^6 \Omega \text{m}$. The corresponding hose coupling GRANIT Select is also made of antistatic material.

**Temperature range**
–20 °C up to +100 °C

**Application**
conveyor technology, hydraulic conveying

**Media**
liquid chemical media

**Resistance**
against a large number of chemical media

**Special features**
A signal cable is incorporated in the wall of the hose and is led outwards on both ends of the hose. With proper connection, the cable serves the purpose of signaling a critical degree of wear on the inner layer of the hose.

Please contact our Application Technology Department in the event of extreme loading capacities.
Material feeder hose with wear monitoring

Data table

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GRANIT Select – Flange coupling for the ceratel® Productline

GRANIT Select couplings are especially designed for GRANIT hoses as regards construction, material and safe handling. The material used is light-weight, strong and heat-resistant. The couplings can also be treated with a chemical-resistant surface coating. The dimensions of the flange bores correspond to DIN 2501 PN 10 and ANSI 16.5 (150 PSI).

Together with suitable flat gaskets made of polypropylene or EPDM reliable full-flow flexible hose connections can be established.

All hose and coupling components can be quickly and easily assembled to a safe flexible hose line.

GRANIT Select coupling made of aluminium
- light weight
- high strength
- rustproof
- heat-resistant
- chemical resistant
- surface coating possible

ET Easy Box – Leakage monitoring unit

Artikel-Nummer 1090065065
Leakage monitoring unit ET Easy Box
with power supply (220V)

Artikel-Nummer 1090065070
Leakage monitoring unit
ET Easy Box with battery supply

The ET Easy Box emits a visual signal.

Our application technology department is available for questions.
Digital wear monitoring – Monitoring system

This system is compatible with the following types of hoses: ceratek® 5910, heavytel® 5980, GRANIT 4280BC and GRANIT UPE.

Wear monitoring is effected by way of integrating a signal cable into the hose wall. When properly connected to a monitoring system, the signal wire generates a signal indicating that a critical degree of wear has been reached.

On assembling a complete conveyor hose line, the signal cable may be extended on both sides and be connected to the monitoring system.

The user has the possibility of choosing between different types of monitoring systems: The two cable ends are either connected punctually, or to a system-side PLC control.

For the punctual monitoring, the leakage monitoring unit ET Easy Box (figure) is used. The ET Easy Box emits an optical signal.

Jet wear – Various wear-protecting materials

Example of wear monitoring using the ET Easy Box.

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<thead>
<tr>
<th>Test</th>
<th>Density</th>
<th>Mass wear [g]</th>
<th>Volume wear [ccm]</th>
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Beam angle: 30°
Beam pressure: 5 bar
Beam time: 5 min
Blasting abrasive: Silicium (middle grain size ca. 200 μm)
Erwin Telle GmbH
Vershofenstraße 6
90431 Nürnberg
Phone +49 (0) 9 11 6 57 17 - 0
Fax +49 (0) 9 11 6 57 17 28
E-Mail info@telle.de
www.telle.de

Locations:
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92237 Sulzbach-Rosenberg
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Fax +49 (0) 96 61 10 90 33
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Carl-Kolb-Straße 2
95448 Bayreuth
Phone +49 (0) 9 21 7 26 54 - 0
Fax +49 (0) 9 21 7 26 54 22
E-Mail telle-BT@telle.de

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