Kalenborn
Wear Protection Solutions

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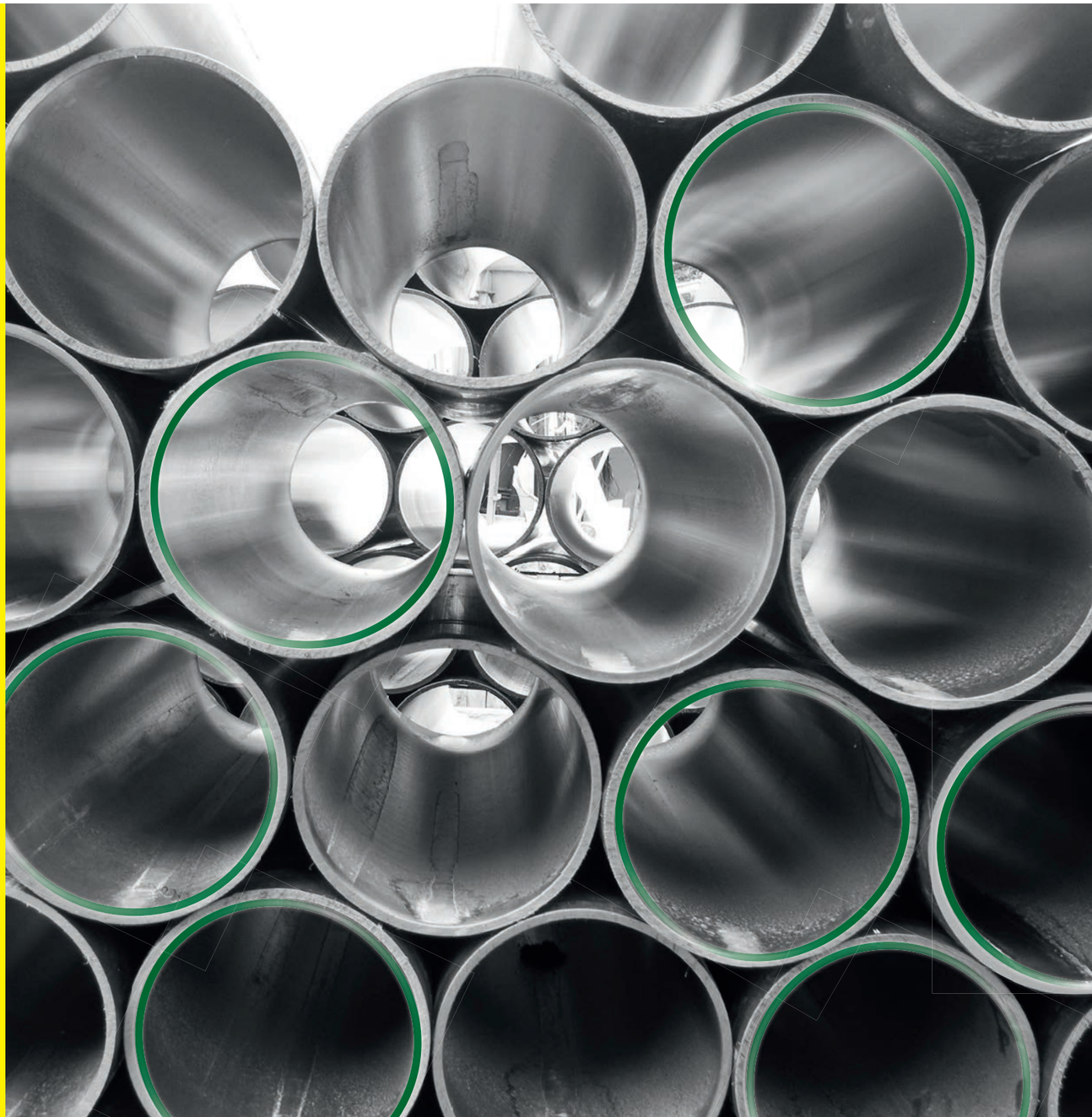
GREEN PIPES AND PIPE BENDS

renewable, recyclable, sustainable



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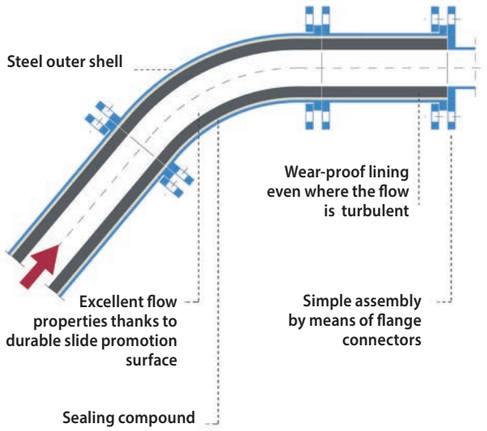
GREEN PIPES WITH REPLACEABLE WEAR PROTECTION LINING

In hydraulic and pneumatic conveying applications, abrasive materials such as ash, sand or sinter dust cause steel or cast iron pipes to wear.

Lining them with wear-resistant materials extends service life and reduces maintenance costs.

Principle of a wear-protected pipe elbow



Green pipes and pipe bends have a wear-resistant lining that can be removed and recycled at the end of their service life.

The wear-resistant lining's special mounting concept makes it possible to remove theold lining without damaging the steel shell. The existing steel pipes are subsequently relined with new material cylinders.

The method used gives the lining the same service life as conventionally lined pipes and pipe bends.

SAVINGS OF 90% CO_2 PER KILOGRAM OF PIPE WHEN LINED WITH ABRESIST FUSED CAST BASALT*

Returning the worn pipes and pipe bends to Kalenborn eliminates the need for disposal and the expense of manufacturing new steel pipes. Companies reduce their CO2-load on the environment.

** myclimate Deutschland GmbH, Reutlingen:*
Calculation of the Product Carbon Footprint (PCF) for conventional pipes with wear protection lining compared to „green pipes" with relining of the previous steel pipe. Conventional production consumes for straight and lined pipes with ID 250 mm 777.5 kg CO_2e and for green pipes 62.9 kg CO_2e. The relining saves 692.6 kg CO_2e.

EFFECTIVE WEAR PROTECTION FROM RENEWABLE MATERIALS

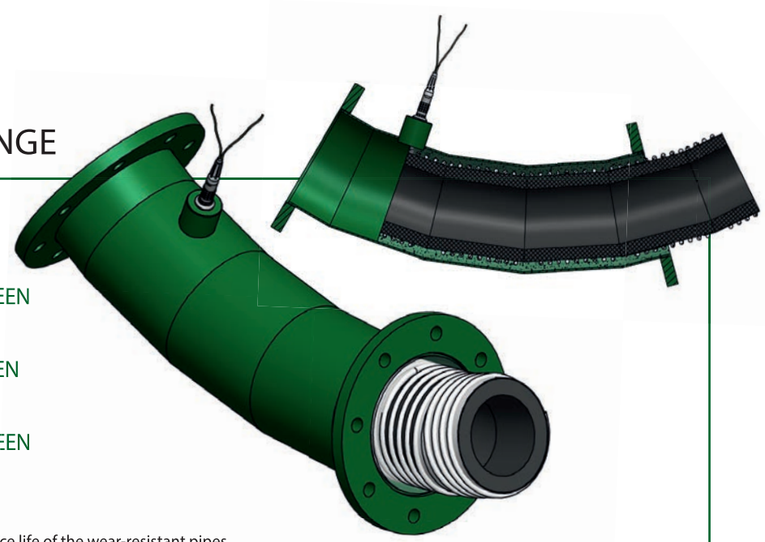
With fused cast basalt and ceramics, Kalenborn relies on natural materials that are renewable.
After the worn lining has been removed, its materials are recycled and fed back into the process for manufacturing new wear-resistant materials.

THE GREEN PRODUCT RANGE

Green pipes and pipe bends are available as product variants:

- ☑ ABRESIST pipes and pipe bends GREEN Fused cast basalt
- ☑ KALCOR pipes and pipe bends GREEN Zirconium corundum
- ☑ KALOCER pipes and pipe bends GREEN High alumina ceramic

The wear protection is used in the form of cylinders.
The process used has no has no influence on the service life of the wear-resistant pipes and pipe bends compared to conventional pipes.



KALDETECT - CLEVER WEAR PROTECTION MONITORING PROTECTS

KALDETECT electric is a good prerequisite for the smooth replacement of the wear protection lining in green pipes.
It gives the operator an early indication when the protective lining is worn, thereby keeping the steel pipes from becoming damaged and preventing possible environmental damage.
The wear protection lining is equipped with a low-voltage measuring conductor. If the lining inside the pipe is worn through by abrasion at any point, the conductor is interrupted and suitable evaluation logic identifies the affected section of piping.
An alarm is triggered and the plant can be shut down automatically.

KALDETECT electric is a measurement system with CE approval by TÜV NORD.
It meets basic safety requirements and has an IP 66 protection rating (dust-tight and protected against powerful water jets).

CE