

When Wear Protection Gets Hot...

## Kalenborn Wear Protection for High Temperatures



This type of wear protection frequently involves problems due to thermal stress between the outer steel component and a rigid lining. The problem is not attributable to a lack of wear resistance of the protective materials but primarily to the fixing method. Therefore, wear protective materials capable of withstanding high thermal stresses were rarely used.

Kalenborn's engineering now allows economic solutions for high temperature applications as well.

### Kalenborn offer protection by means of:

- KALCOR fused cast corundum
- KALOCER high alumina ceramics
- KALSICA silicon carbide ceramics
- KALCRET hard compound

### Mechanically fixed by:

- bolted connections
- weld straps

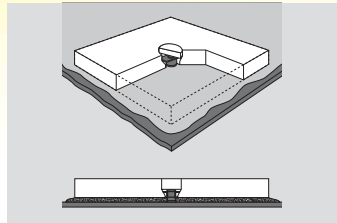
**Materials and Engineering from Kalenborn:**

**Economic Wear Protection for High Temperature Applications**

KALCOR, KALOCER and KALSICA are wear protective materials capable of withstanding high temperatures. Each of these materials is selected with due regard to the specific application. Moreover, KALCRET hard compound can be installed either by casting, trowelling or spraying.

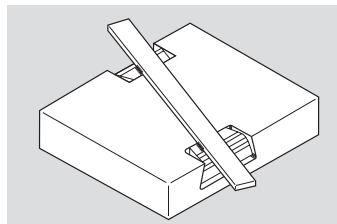
A wide range of mechanical fixing methods and design details permit finding cost-effective wear protection for any application.

The effects of varying expansion of steel components and lining can be minimized by the use of insulating mortar or internal and external insulation.



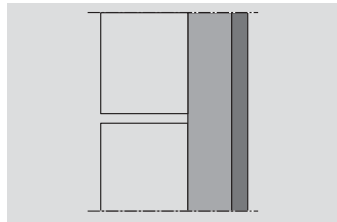
**Bolted connection**

The tiles have been provided with holes used for attaching the tiles to the steel shell of the plant component. Each tile is easily replaceable.



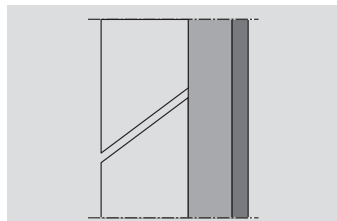
**Weld straps**

For mechanical fixing, weld straps have been cast in the lining tiles.



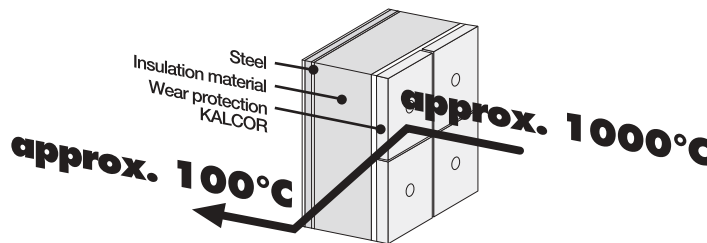
**Open joints**

Open joints ensure unhindered movement of the lining tiles at temperatures above 400 °C / 752 °F.



**Inclined joints**

This design insures unhindered movement and avoids deposits of material.



**Internal and external insulation**

This method allows a temperature pattern which will ensure nearly identical expansion for steel component and lining.

**Kalenborn Kalprotect**

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