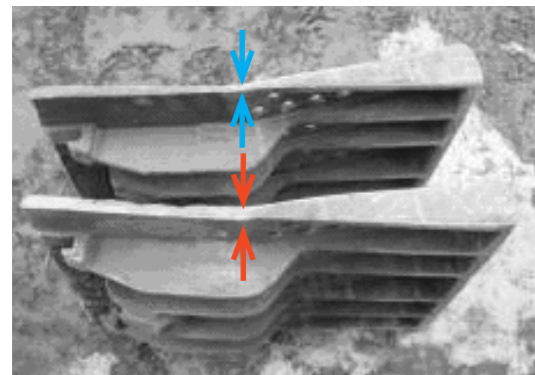
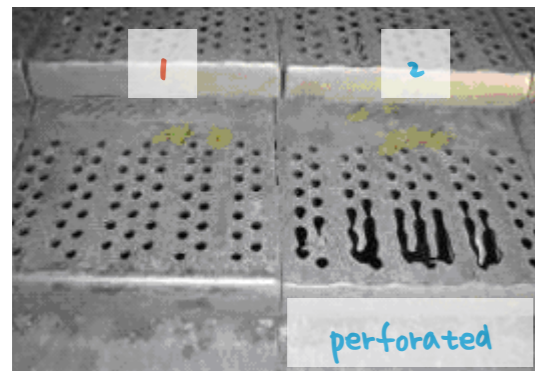


### SOME RESULTS

Comparison between standard alloy and Xcc® in a 3,100mtpd cooler.



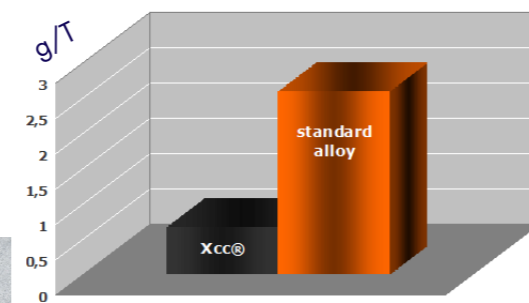
top: competition grate  
bottom: Xcc® grate.  
both after 26 months



left: Xcc® grate  
right: competition grate  
both after 26 months

If we consider the average wear of the complete grate, the net wear rates are respectively 2.59 and 0.67.

Xcc® grates are thus 3.85 times better in average than the ones in standard alloys.



For all questions, queries or tests,  
do not hesitate to phone  
**+ 32 4 361 77 44**

or mail

[xcccoolergrates@magotteaux.com](mailto:xcccoolergrates@magotteaux.com)

Visit our website:  
[www.magotteaux.com](http://www.magotteaux.com)

**MAGOTTEAUX** has developed new alloys and designs that offer great benefits to conventional coolers, by enhancing both product performance and lifetime.

Wear and thus performance of the cooler grate plates depend to a large extent on their location in the cooler.

Magotteaux therefore addresses each zone in a different way in order to develop and optimize solutions for each one.

1. The hot zone (or drop zone).
2. The intermediate zone.
3. The cold zone.

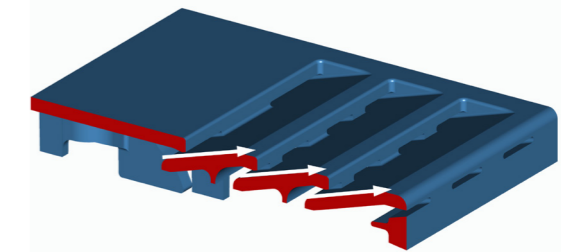
#### 1. The hot zone.

Particular constraints:

- High temperatures of clinker.
- Mechanical stresses (due to the impact of the clinker falling from the kiln).
- Thermal stresses (due to uneven exposure of the plates to the hot clinker vs cold air).

Our solution:  
the patented Bar Grate Design for optimal cooling through:

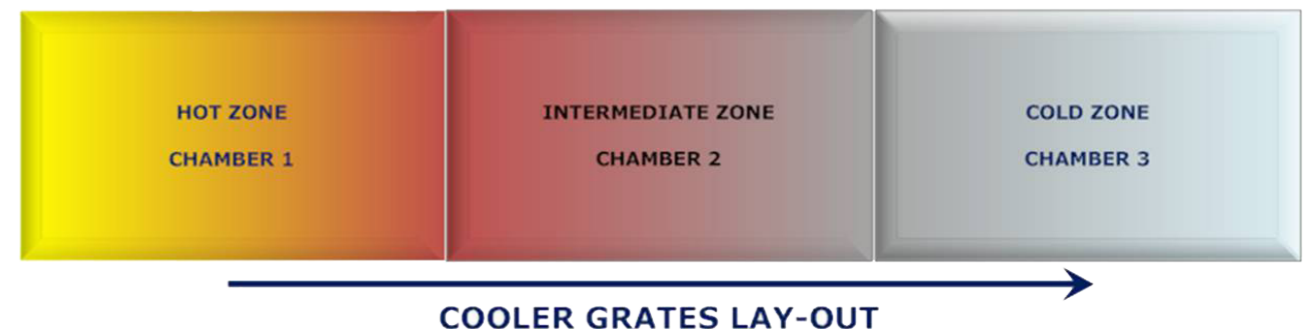
- Special air distribution system.
- Cooling of grates AND clinker.
- Strong resistance against deformation.



air channels in Magotteaux patented Bar Grate

Our «extra»:  
cast FMR6T alloy to resist:

- Oxidation.
- Corrosion at high temperature (sulfur).
- Mechanical and thermal stresses.





# XCC cooler grates

## Keep cool? Yes, we can!

### 2. The intermediate zone.

#### Particular constraints:

- Lower temperature but still an issue.
- Hardness of a quenched clinker -> tends to wear the plates.
- Preferential wear at rear portion of the plates.

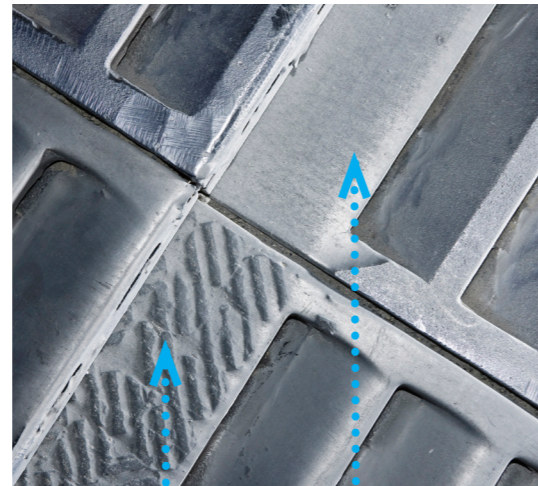
Our solution:  
the patented Bar Grate Design for:

- Strong resistance to abrasion.
- «Self-protecting» design of grate.

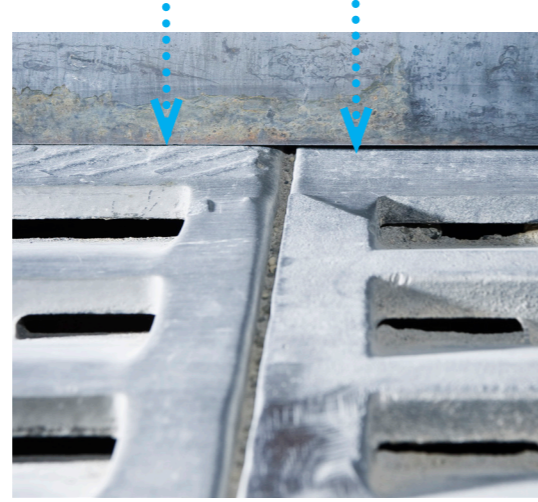


Our «extras»:  
cast FMR56 alloy + Xcc® to resist:

- Wear.
- Temperature.
- Cracks.
- **Superiority coefficient: from 2 times better.**



XCC standard + calorized



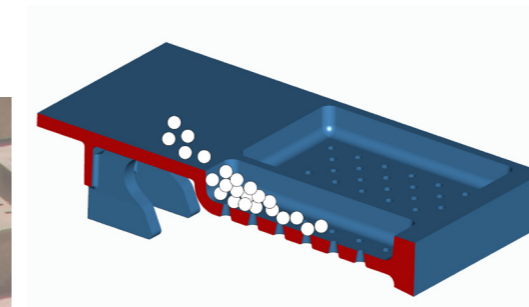
### 3. The cold zone.

#### Particular constraints:

- Temperature is no longer a threat.
- Abrasion from clinker grains.

Our solution:

The Pocket Grate Design to avoid direct contact between moving layers of clinker and surface of the cooler plates.



cross section of the Pocket Grate

Its working principle is to always keep a dead layer of cold clinker grains trapped inside the pocket. This layer remaining still, the blowing holes located at the bottom of the pockets will keep a constant opening during the whole life of the cooler plates.

Our «extras»:  
cast FMX250 alloy + Xcc® to resist:

- Abrasion and hence wear caused by moving layers of clinker.
- **Superiority coefficient: from 2 times better.**



Pocket grates installed in a 4600 tpd cooler in Belgium