



20 a 22 de Junho de 2016 - São
Paulo/SP



The PREPOL® Step-Combustor (SC)

Enough time for making money

Realização

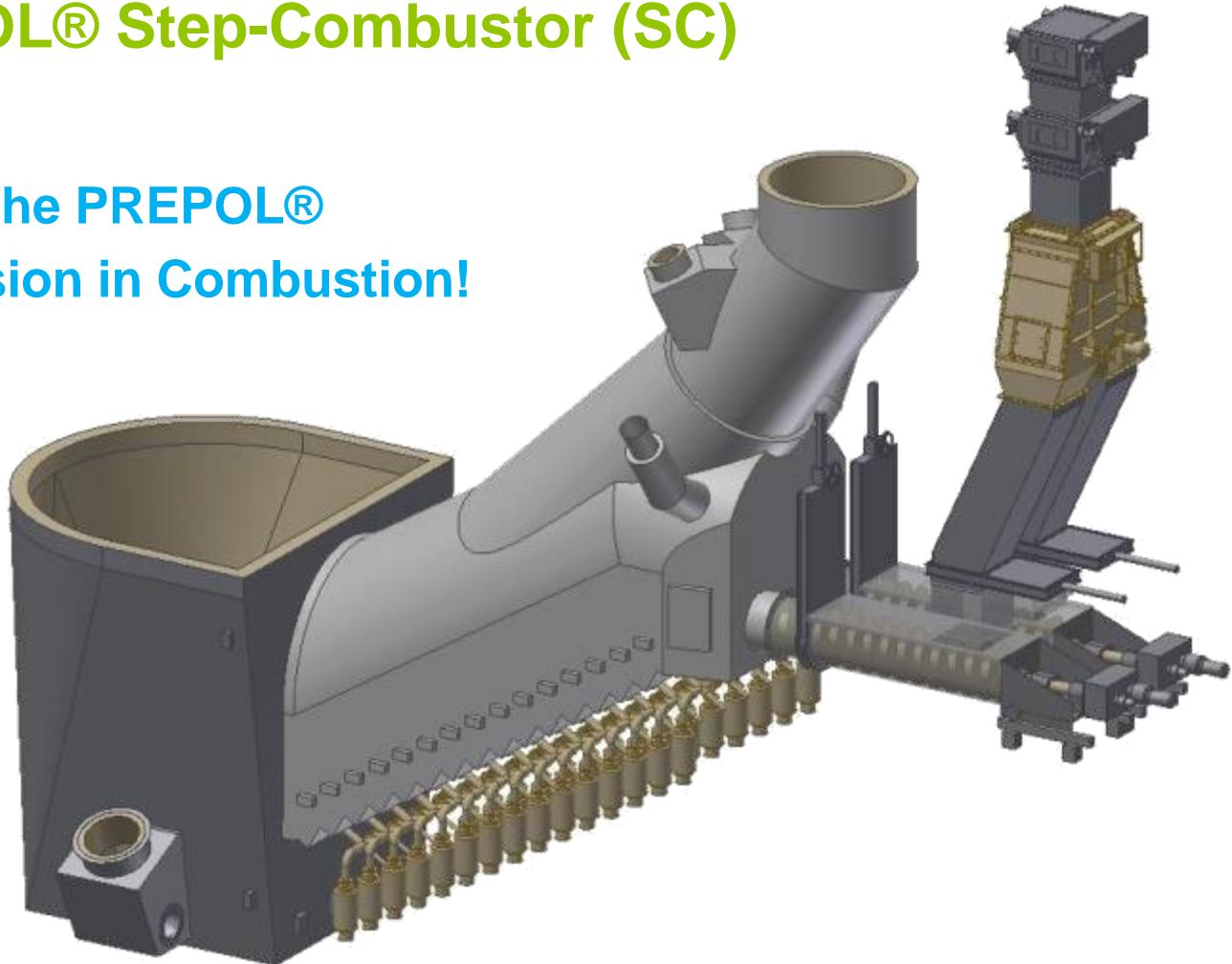


Associação
Brasileira de
Cimento Portland



The PREPOL® Step-Combustor (SC)

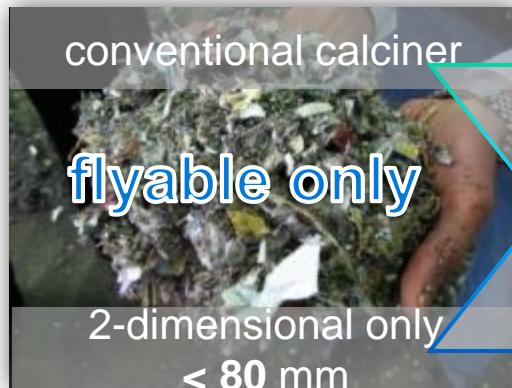
- **Add-on for the PREPOL®**
- **New dimension in Combustion!**



PREPOL®- SC makes the combustion of coarse AF easy



>1000 seconds residence time!



Limits for successful calciner application



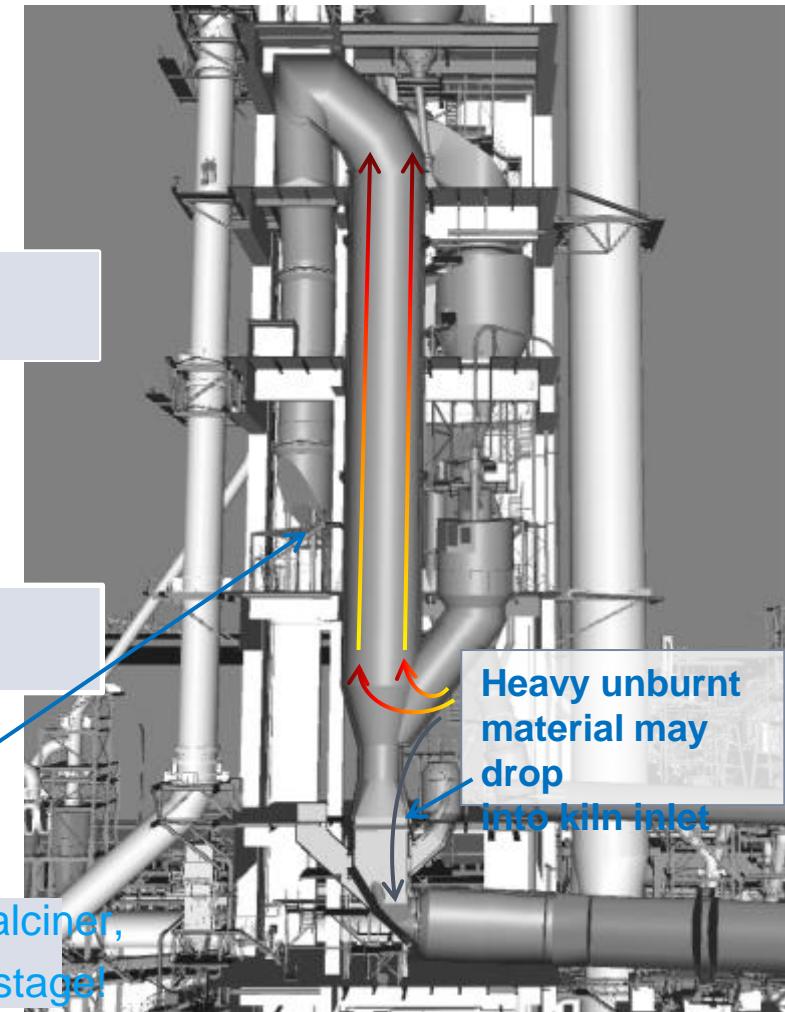
Particle size



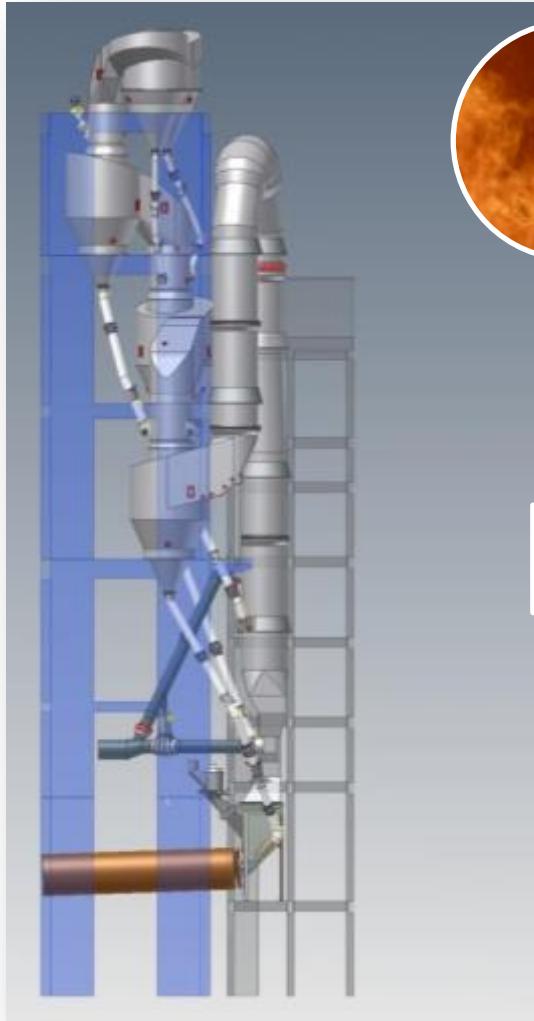
Residence time

Material burns in
the lower Cyclone,
not in the calciner

Target – Burnout of alternative fuel in the calciner,
not in kiln inlet and not in bottom preheater stage!



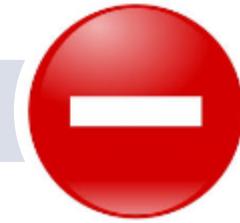
Calciner retrofit or elongation - example



Benefit

- Up to 100 % AFR for 2D up to 50-80 mm
- Normal calciner end temperatures
- Low CO emission

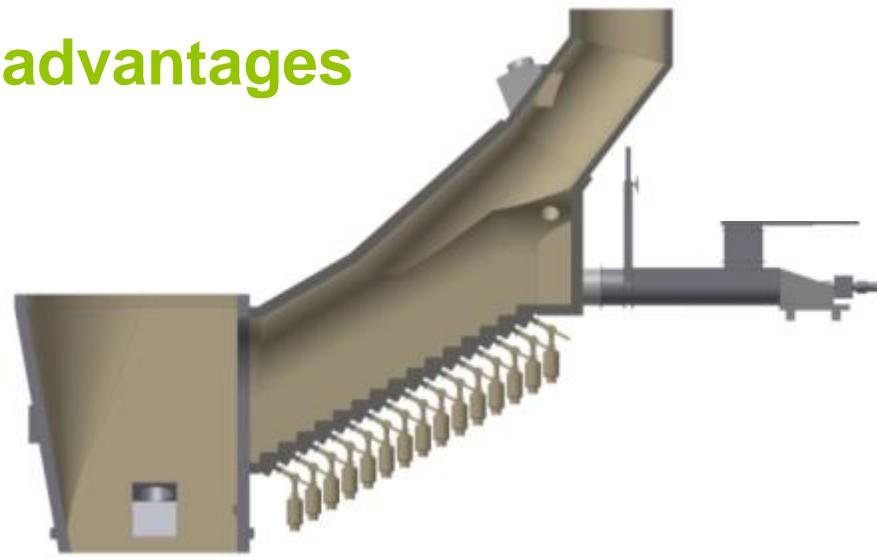
Effort



Example for 3000 tpd – 4 seconds elongation:

- ~ 250 t refractory
- ~ 100 t steel
- Reinforcement of tower or even new civil structure

PREPOL®-SC – Main advantages



SAFE

- High excess air level for safe operation with low emissions
- 15 – 20 minutes of residence time
- Static system without moving parts in the combustion zone
- Permanent agitation of the fuel due to air cannons

SIMPLE

EFFECTIVE

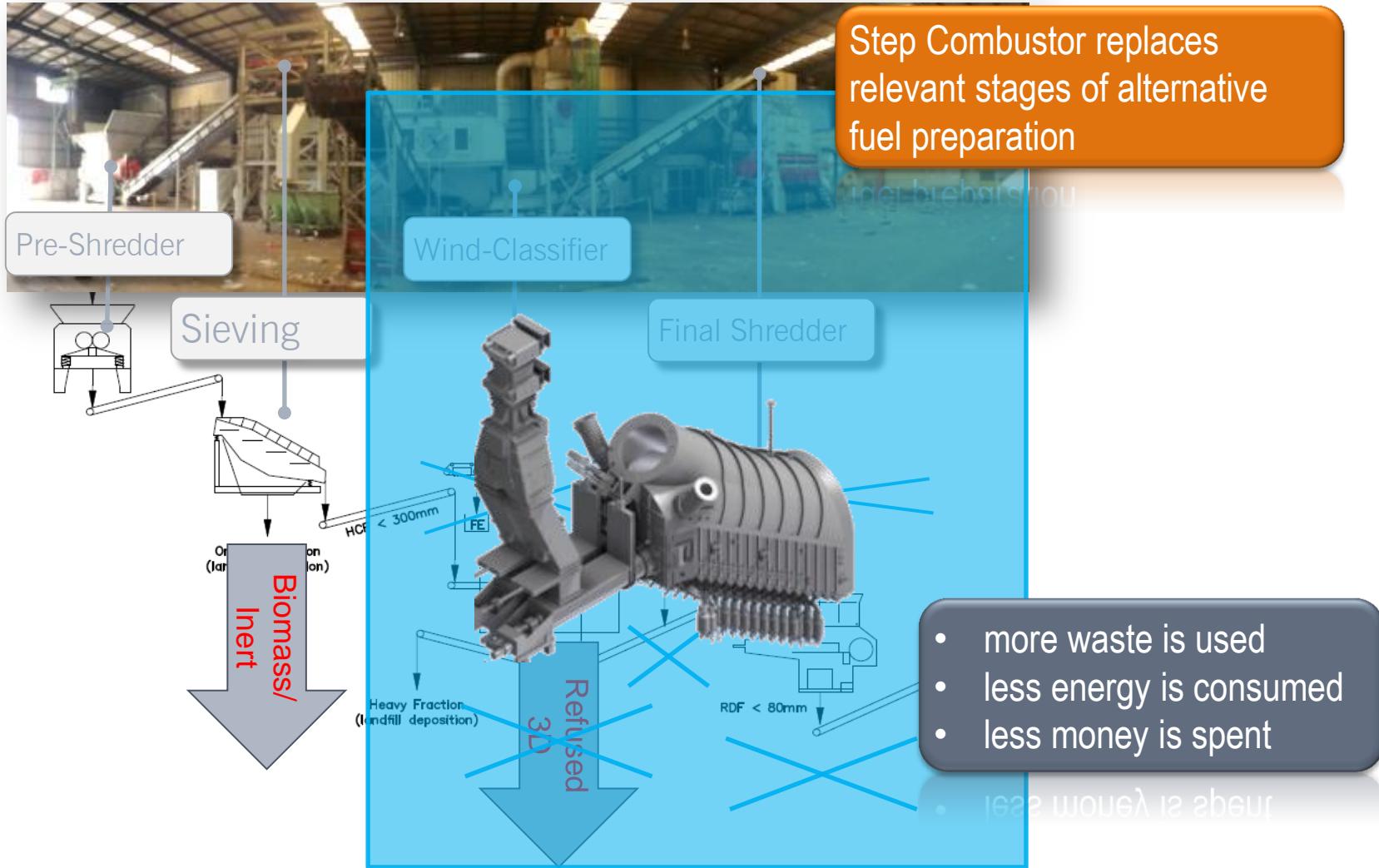


thyssenkrupp

PREPOL®-SC - Fuel qualities



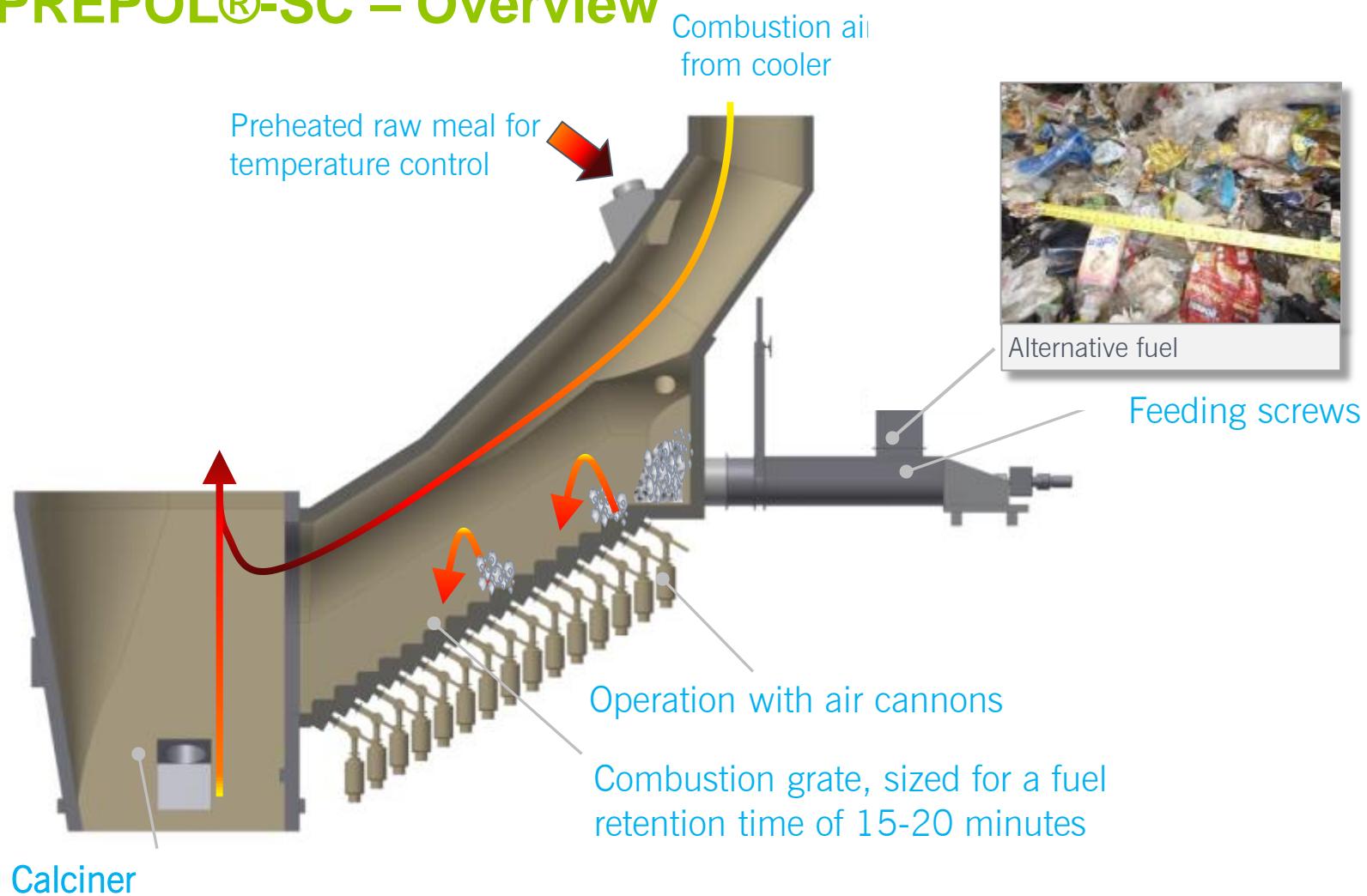
PREPOL®-SC - Significant savings in AF preparation



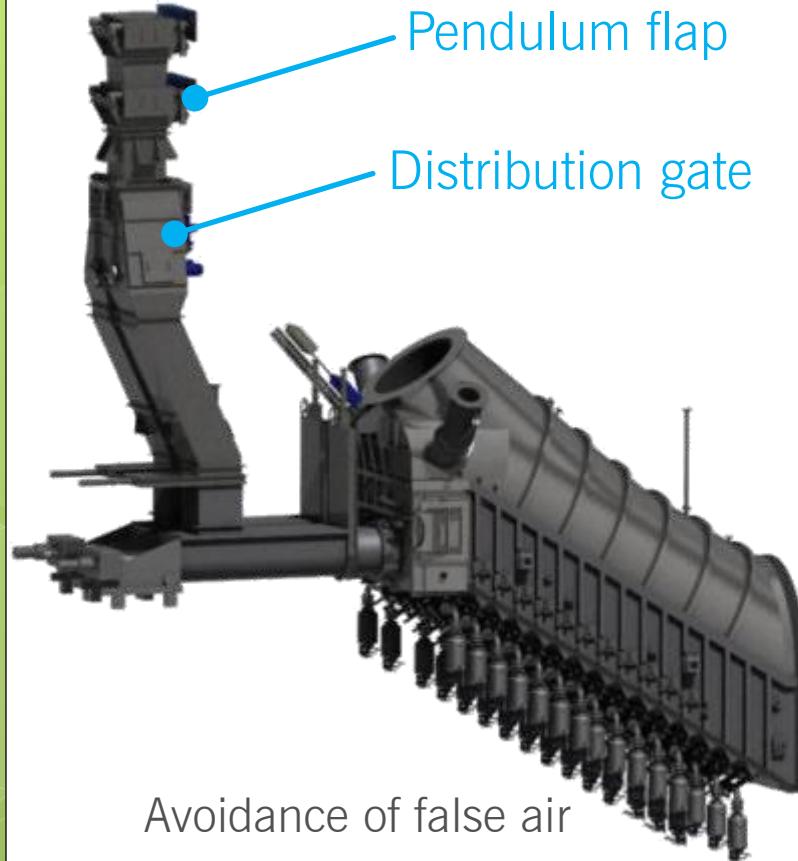
Alternative fuel storage hall



PREPOL®-SC – Overview

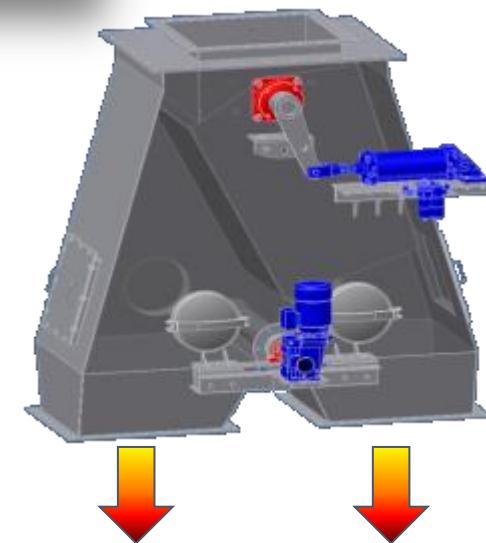


Fuel feeding system



Avoidance of false air

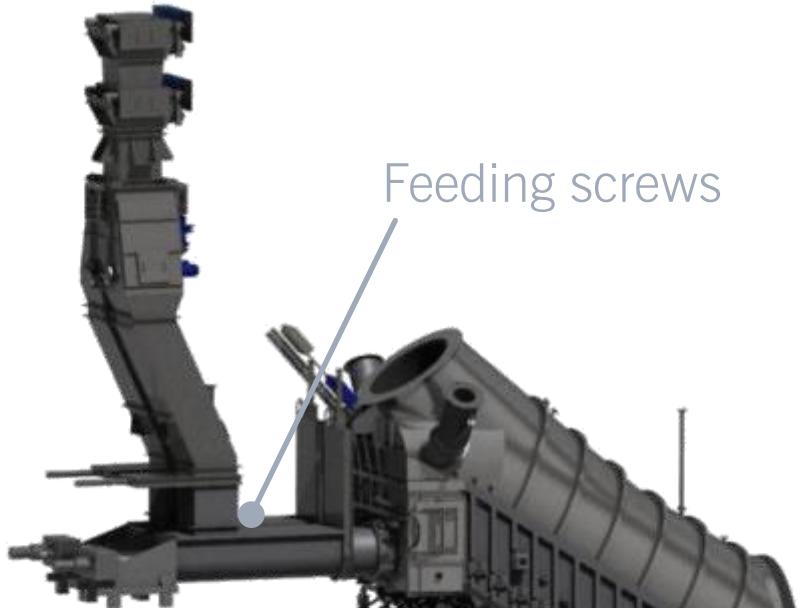
Equal distribution of fuel on both feeding screws



Screw 1

Screw 2

Fuel feeding system



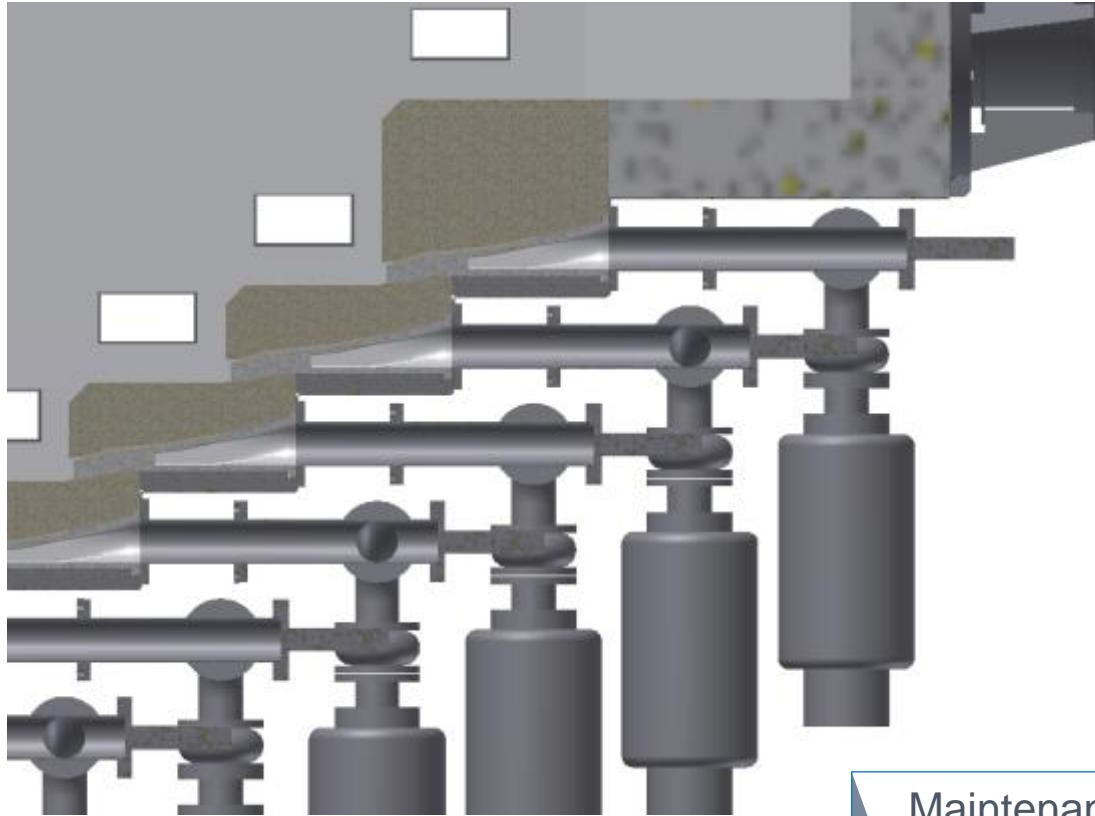
- Fuel pile for slow drying and ignition
- Thermal protection of the screws
- Controlled and steady fuel feed



View on the combustion grate

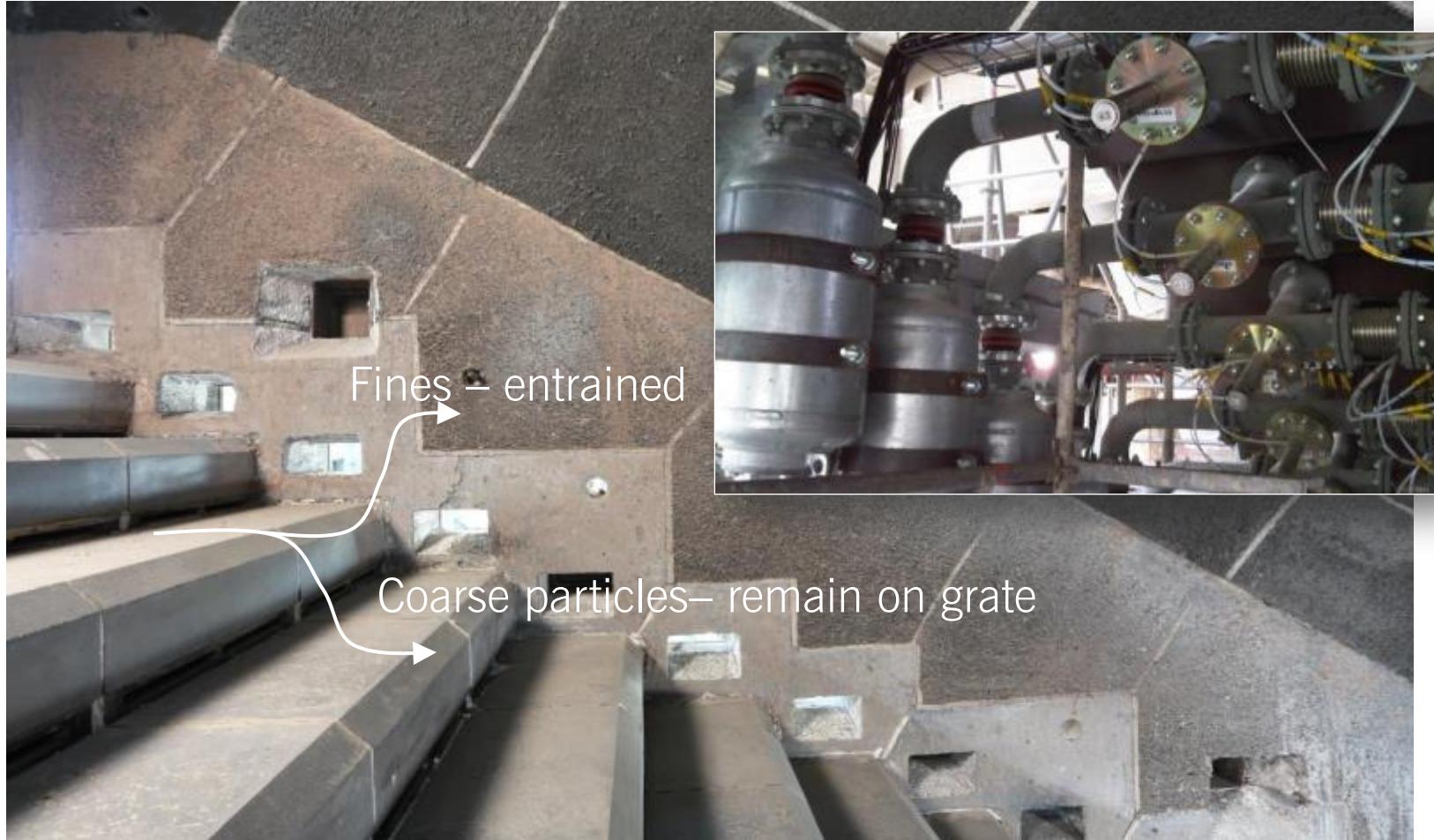


PREPOL®- SC grate

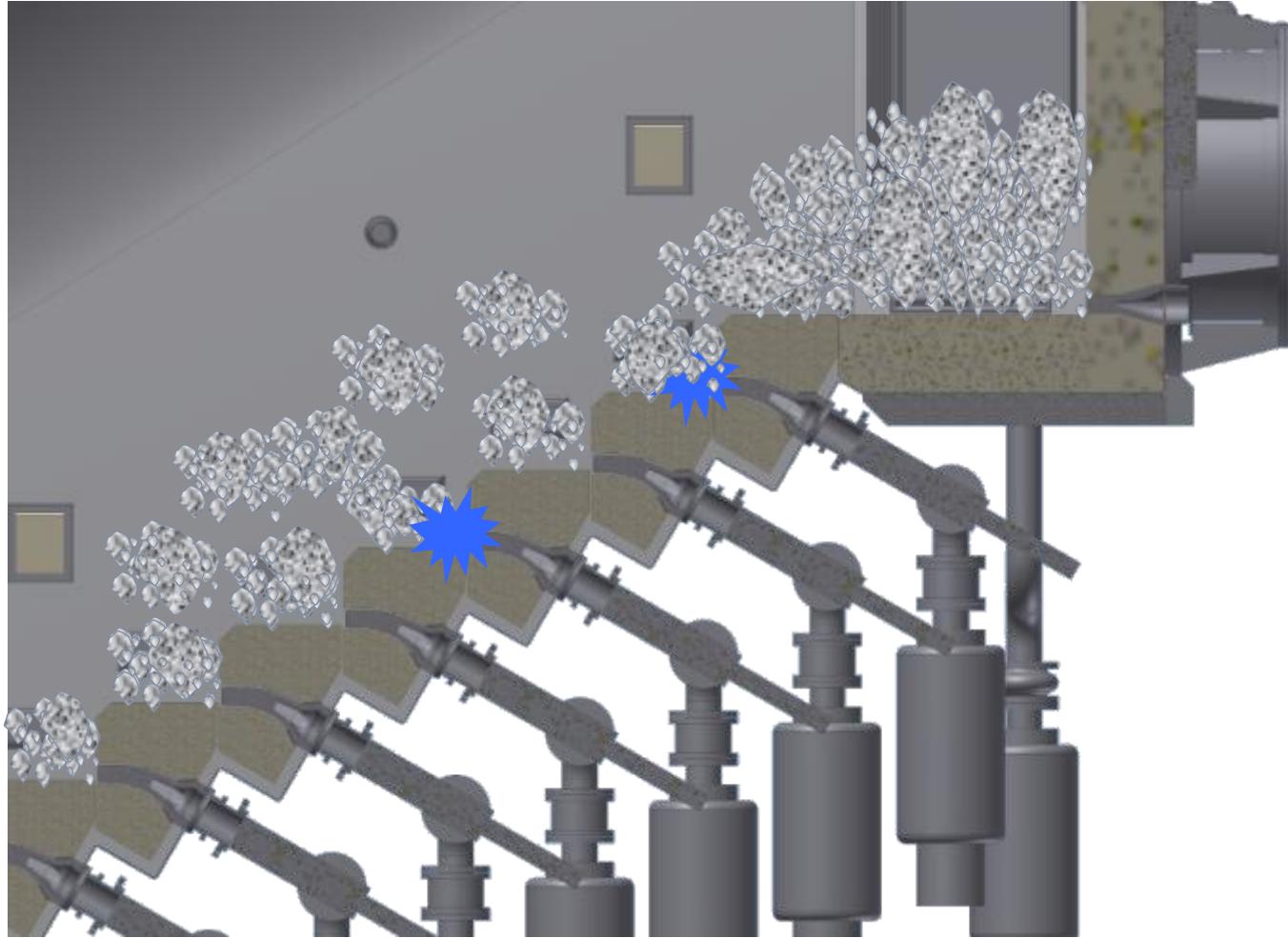


Maintenance-free
operation of the air
blast system

Intelligent fuel transport: only non-flyable particles remain on the grate



PREPOL®-SC – Operation



Performance of refractory



- Reliable cleaning with air cannons
- No severe coating formation
- No slag infiltration



Very fast mounting possible due to easy design!



Pre-mounted
delivery on site



Adaptor piece

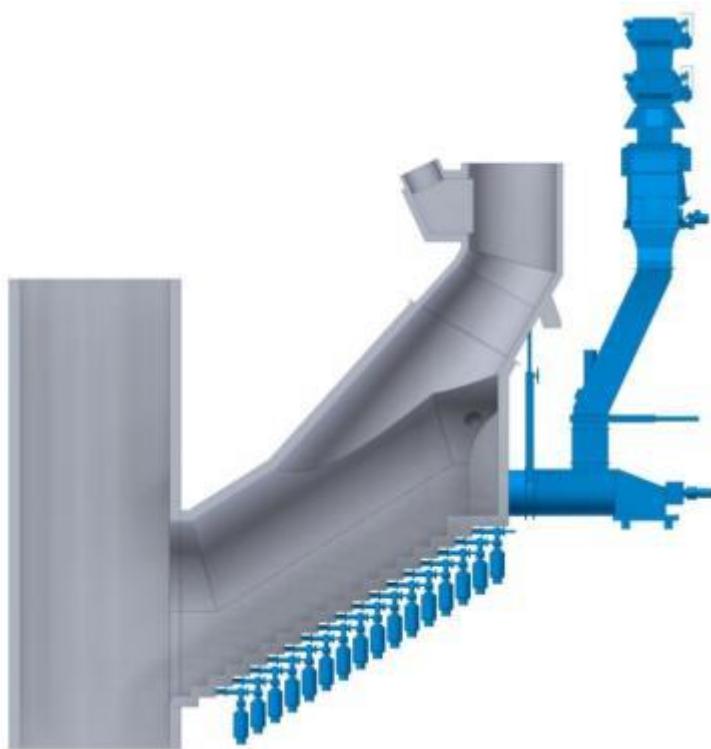
Connection to the calciner
during kiln in operation

Kiln operation stopped for only 1 week!

First installation in Lägerdorf – Germany



PREPOL SC



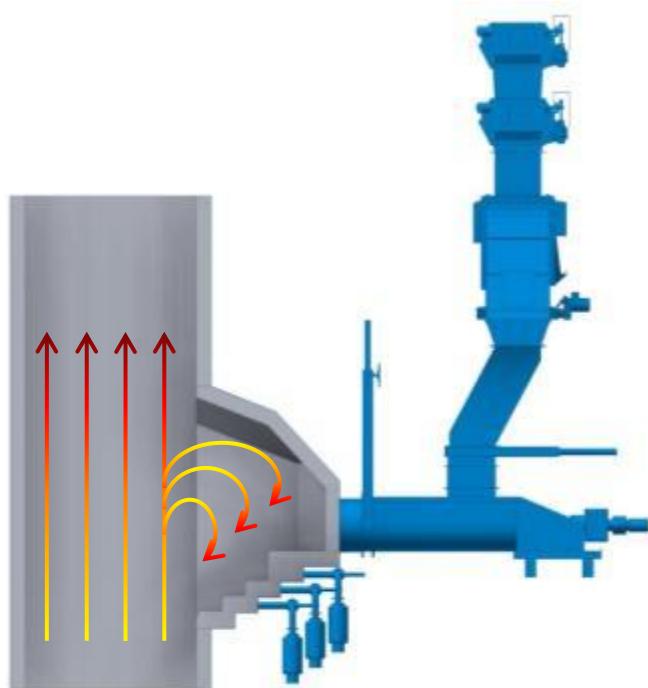
Complete combustion of ultra coarse AF

PREPOL SC-Short (SC-S)



Fuel drying and pyrolysis in Prepol SC-S – char oxidation in calciner riser duct

PREPOL SC-Short - Characteristics



- about 3 minutes of residence time
- heating up, drying, degasification, ignition
- no tertiary air and raw meal supply required
- easy integration for existing plants with limited space
- effective boost of short calciner loops
- low CAPEX

Thank you!

thyssenkrupp Industrial Solutions
www.thyssenkrupp-industrial-solutions.com

engineering.tomorrow.together.



thyssenkrupp