



## Stability. From day one.

Due to the slope and rotation of the rotary kiln, the raw material fed in via the kiln inlet housing is conducted through the rotary kiln shell. A rotary kiln shell is subdivided into individual sections made of plates with varying thickness, depending on the load zone. In order to protect the rotary kiln shell and the components attached to it, as well as to prevent excessive heat losses, the rotary kiln is equipped with a refractory lining.

### Components and description of functioning

In the course of the rotary kiln operating time, wear affects the rotary kiln shell in spite of the refractory lining. This wear primarily results from high-temperature corrosion and oxidation with the ambient air. Furthermore, the process types and operating modes have an impact on the service life of the rotary kiln shell. The service life can be impaired, for instance, by refractory lining damage due to hot spots or by overload resulting from coating or excessive loading and leading to high ovality or cracks in the steel shell.

High-temperature corrosion of the kiln shell mounts up inevitably owing to the increasing use of secondary fuels, which results in a rise of free radicals in the process and a displacement of the clinkering zone. Frequent kiln stoppages also lead to increasing shell corrosion.

To check the extent of wear, it is generally recommended to measure the plate thickness at regular intervals and record the measured values in writing. Trends or actions to be taken can be analysed and determined with the aid of the polysius® kiln statics procedure.

During this service provided by our polysius® kiln experts, who have many years of experience in this field, the actual kiln condition as well as its original condition are analysed. The kiln statics service also includes the inspection and evaluation of the kiln roller stations with regard to wear and loading.

The polysius® kiln statics service also plays a vital role when it comes to replacing kiln shell sections. It is used to determine and dimension the supports to be mounted in order to counteract the sagging of the kiln shell and thus ensure statically safe and accurate installation.

### Your service advantages

- Check of the shell plate thickness and well-timed replacement, resulting in:
  - High availability of the rotary kiln plant
  - Spare parts procurement in due time
  - Plannable replacement
- Prevention of excessive loading & ovality
  - Basis for durability of the refractory lining
  - Protection of the adjacent components, such as kiln tyres, supporting rollers and girth gear
- Applicable to every rotary kiln, regardless of the make (drawing of kiln shell required)