

Hot kiln evaluation

The hot kiln evaluation is a comprehensive, cost-effective approach to maintaining refractory life, improving mechanical reliability, and establishing a base for a proactive maintenance program. With a detailed analysis of kiln conditions, plant personnel can make informed decisions for maintenance and operation of their kiln.

Metso hot kiln evaluations are conducted under normal kiln operating conditions and combine three major tasks:

Kiln shell ovality

Kiln shell ovality measurements identify excessive elastic shell deformation in the riding ring area, which can have adverse effects on refractory life and kiln shell integrity. Ovality measurements are typically taken on both sides of each riding ring. Experienced analysis of ovality data can indicate causes of problems; i.e., excessive riding ring/filler bar clearance, severe kiln shell misalignment, etc. The analysis leads to corrective/preventative recommendations; which when implemented, increases operational efficiency of the kiln.

Kiln shell runout

Kiln shell runout measurements obtained with laser technology locate and identify permanent shell deformation conditions, such as, doglegs, out-of-round, etc. These measurements also define the straightness of the shell center line. Riding ring creep on the shell is also measured and analyzed.

Kiln mechanical inspection

Kiln mechanical inspection includes a shell temperature profile to compare with refractory history and operating practices. Thrust conditions and ring/roller contact are checked at each pier. Gear and pinion conditions are evaluated for vibration, temperature, alignment and proper lubrication.



Most advanced and compact ovality measuring device means more accurate data and secure placement.



Unit gathers shell runout measurements and is recorded on field tablet.

Upon completion of these tasks, all data is analyzed together, resulting in near and long term recommendations; to improve mechanical and operational kiln performance.

- Reliable: OEM experienced field engineers
- Accurate: OEM drawings and technical data
- Value: Complete information at competitive cost

For more information, contact your local Metso representative. www.metso.com
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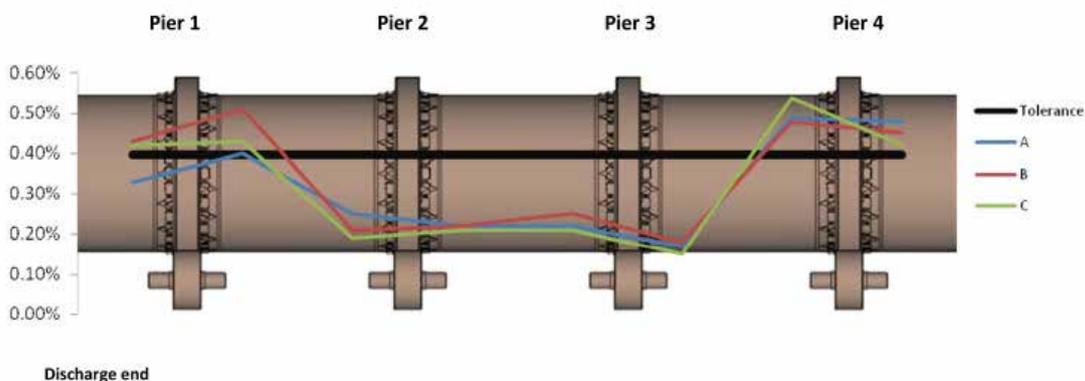
Ovality studies indicate type of loads on the support piers and provide a pictorial representation of the kiln alignment. Ovality analysis does not determine the exact amount of kiln misalignment; nor is it a substitute for a kiln alignment.

It will provide indications of a serious misalignment, requiring a roller move of 1/4" and larger, which can be made during operation. This allows times for a shutdown to be scheduled; when accurate measurements of the riding rings, support rollers and base frame center lines can be performed, restoring the kiln to design specifications.

Combining kiln shell runout studies, ovality readings, temperature scans and complete kiln inspection, provides the needed information to effectively analyze the kiln during operation. As a result, the completed report will include issues with and recommendations related to irregular loading, potential for refractory failure, kiln shell anomalies, rinding ring to filler bar clearances, etc.

Once problem areas are identified and corrected a full alignment survey (Hot or Cold) can be performed to distribute load and thrust of carrying rollers and riding rings.

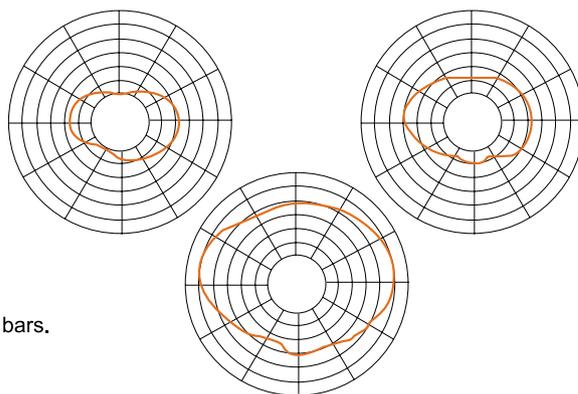
Graph of shell ovality



Sample

	Study results		
Deformation (mm)	0.70	0.93	0.70
Ovality (mm)	13.97	18.63	13.97
Ovality (%)	0.37	0.49	0.37
Average Ovality (%)	0.41		
Play** (mm)	3.00		

Radial shell deformations



**Operating diametrical clearance between riding ring and filler bars.

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