

Press Information

METALLOCK KILN TYRE GRINDING RESTORATION PROCESS ELIMINATES CRACKS RISK FOR IMERY'S MINERALS

To eliminate the risk of a cracked casing on one of its china clay drying kilns Imerys Minerals, formerly English China Clays, called upon Metallock Engineering to in-situ machine one of the tyres on a 41 year old kiln to remove the effects of wear. Vibration caused by tyre wear can result in cracks in the hot metal shell of a kiln and also the internal refractory lining can become detached and break away to contaminate the product.

Kilns used for china clay drying operate at 1080°C at the hot end down to 600°C and revolve on circumferential tyres running on support rollers. A typical 15-metre long drying kiln used by Imerys has two tyres and the kiln is rotated by a rack and pinion system. Tyres tend to wear unevenly as moisture removal while the china clay progresses down the kiln reduces the weight supported by the rollers. The tyre in question had reached a stage where it could no longer be tolerated due to the degree of vibration it was causing. Using the internet, the Imerys engineer in charge investigated companies that had the capability he was seeking and decided to consult with Metallock Engineering as being the most suitable for the job in hand.

Metallock Engineering who has vast experience of kiln tyre grinding undertook to regrind the most badly worn 300-mm wide 4-metre diameter steel tyre. The kiln needed to be stationary while Metallock to set up its purpose-designed equipment but as the tyre needed to be revolved to grind it normal production was resumed, thus reducing downtime to a minimum. Normally, a kiln will run continuously 24 hours a day all year round.

Although Metallock had originally planned to restore only one tyre at St Austell, such was the success that it was asked to repeat the operation on a second identical tyre on the same kiln whilst they were on the premises. Metallock was on site for five days for the set-up and dismantling and the regrinding of two tyres to clean up and restore roundness. During three of those days, production continued as normal.

Metallock Engineering has been serving industry with mechanical repairs for nearly 60 years and in that time has accumulated a wealth of experience in the art of in-situ machining. The technology saves money by eliminating the need to dismantle and uproot machinery for transportation to a workshop for repair. Instead, Metallock moves in to carry out the work on site thus ensuring that costly machinery downtime is minimised.



Metallock Engineering in-situ machined two 4-metre diameter, 300mm wide china clay drying kiln tyres for Imerys Minerals to eliminate vibration caused by severe tyre wear.

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