How to repair girth gear cracks in rotary kiln?

The girth gear is one of the main components in the rotary kiln equipment, which drives the entire cylinder for a long time. The rotary kiln is under the action of alternating stress for a long time. Over time, the girth gear will have some problems such as cracks and wear during use. If it is not replaced or repaired in time, it will seriously affect the normal use of the rotary kiln.

Cause of crack

1. The girth gear has a long-time super-capacity operation, the operation rate is high, and the cylinder body is bent and deformed, resulting in unevenness of the gap between the girth gear and the pinion gear. Under the action of the alternating load, the girth gear will fluctuate and prone to cracks during operation.

2. The girth gear of the rotary kiln belongs to large steel castings. At present, ZG42CrMo or ZG45 are mostly used. Due to the long-term influence of alternating load, cracks are easily generated in the stress concentration areas such as wear and casting defects.

The cracks in the girth gear of the rotary kiln are mostly sudden. If the girth gear is replaced, the cycle of procurement and installation is too long, which will not only affect the annual production tasks of the enterprise, but also the replacement cost is high. Therefore, the more economical method is online. Repairing and reducing the outage time of the rotary kiln will create benefits for the company.
Girth gear crack repairing method

1. Remove the crack and make the welding groove into a u-shape. After grinding the groove to a metallic luster, perform PT test to confirm that the cracks are all cleaned and clean the oil, rust, water, etc. within 100mm around the welding zone.

2. Use the dried electrode to weld and check for cracks. After the crack is found, the crack is treated. If there are no defects, proceed to the next crack treatment.
The repair of the girth gear crack can only be used temporarily. If the crack is serious or even impossible to repair, the new girth gear should be purchased in time to ensure the normal operation of the rotary kiln.

Regular maintenance and maintenance of the girth gear not only can find and deal with problems in time, extend the service life of the components, but also improve the working efficiency of the rotary kiln and improve the annual economic benefits of the enterprise!