FLSMIDTH CEMENT

LATEST PULL ROD INCREASES ATOX MILL AVAILABILITY

Pull rods breaking can be challenging for any maintenance manager. Operating conditions can cause pull rods to unexpectedly break during production. And even if the material silo capacity allows a short stop of the mill, replacing broken pull rods can be demanding, time consuming and costly.

UP TO 30% STRONGER PULL ROD

FLSmidth Cement has increased the lifetime of its pull rods by making them up to 30% stronger through an intelligent design. The design increases ATOX mill availability and ensures more stable, reliable mill operation.

TRADITIONAL VS. NEW DESIGN

3D design with Finite Element Analysis shows that the traditional pull rod design has increased stress around the shaft near the connection flange, indicated in red (see fig. 1). The new design does not indicate any high levels of stress concentrations (see fig. 2).

To prevent fatigue failure, the surface is carefully machined, polished, degreased and painted, ensuring that no micro cracks are present and thereby preventing unexpected breakage.

KEY BENEFITS

- 30% stronger than before
- Increased lifetime
- Increases ATOX mill stability
- Global stocking for convenience and fast response
- Same price, more value

PRODUCT PERFORMANCE

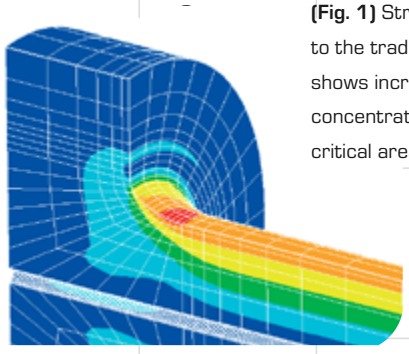
The new design ensures the pull rod performs excellently under vibrations and heavy-duty conditions, maximising pull rod lifetime. Several plants have been upgraded with the new design, giving clients a stable mill operation.

The new pull rods are compatible with ATOX mills with following mill sizes: 20; 22,5; 25; 30; 32,5; 35; 40; 42,5; 47,5; 52,5; 55; 57 without modifications.

EXTENSIVE QUALITY TESTING

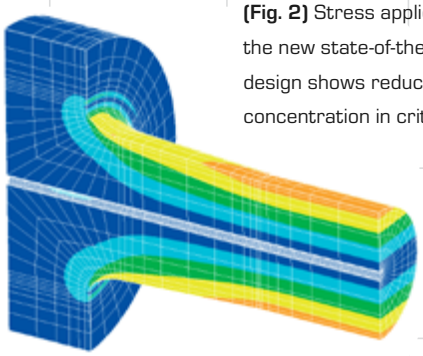
The pull rod is manufactured from highquality steel alloy and certified according to FLSmidth Cement standards. The material is tested for tensile strength, impact, surface finish and structure analysis.

Traditional design



(Fig. 1) Stress applied to the traditional design shows increased stress concentration (in red) in critical area.

New design



(Fig. 2) Stress applied to the new state-of-the-art design shows reduced stress concentration in critical area.

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