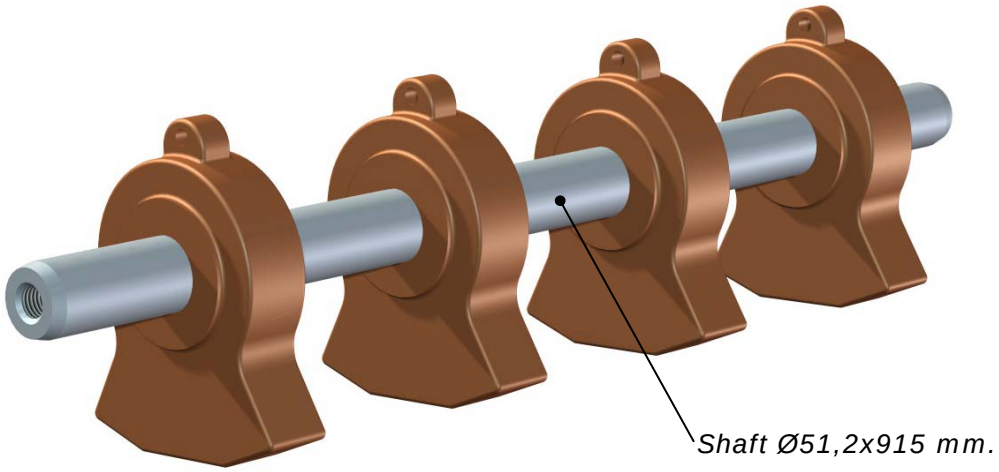
CASE OF THE MONTH

UDDEHOLM HIGH PERFORMANCE STEEL APRIL 2007, NO. 1

Shafts in a Hammer mill for fragmentation manufactured from UDDEHOLM THG 2000 HT.



High toughness and wear resistance

The four shafts that hold the hammers in a hammer mill must withstand large forces and severe wear when the hammers rotate. These put demands on high strength in combination with high toughness and wear resistance.

This type of shaft is usually manufactured from a tough hardening steel SS 2541 (EN 34CrNiMo6) with a hardness of 300 HB.
The shafts life term depends on the working conditions and when the maximum allowed radial wear is reached, in this case 2-3 mm in the area where the hammers rotate on the shaft.

Shafts made from UDDEHOLM THG 2000 HT with the delivery hardness of 39-43 HRC have proven to last twice as long, i.e. two months, compared with the originals under the same working conditions.

Shafts made from UDDEHOLM THG 2000 HT which have been induction hardened, to achieve an additional surface wear resistance, have proven to last four times as long, i.e. four months, compared with the originals under the same working conditions.
After induction hardening the shafts received a 3-4 mm thick layer with a hardness of 54-56 HRC and a core with high strength and toughness.

In this case the economic advantages achieved by changing to better steel are obvious.

Contact information:
hps@uddeholm.se

UDDEHOLM