

*"...exceptional lifespan on the buckets while reducing thicknesses..."*

# A Prize for the Liebherr Shovel Bucket Lightened With ENDURA

**T**he Liebherr R9800 hydraulic mining shovel won the 2010 prize for the best mining equipment in

the "Surface Mining, Capital Equipment" category, awarded by Mining Magazine. Abraservice and Industeel contributed to this success by providing the anti-abrasion reinforcements for the bucket made of ENDURA. This high-performance grade of abrasion-resistant steel makes it possible to maintain an exceptional lifespan on the buckets while reducing thicknesses, which is always a difficult challenge in the case of a large-volume mining operation.

For Liebherr, the choice of ENDURA was made

not primarily for its abrasion feature, but for the possibility it offers in terms of reducing weight without altering the bucket's lifespan.

**A** bucket lighter by 538 kg

The bucket's capacity is 47.5 m<sup>3</sup> for a total weight of 43.7 tonnes.

The anti-abrasion parts installed on the bucket are made from ENDURA. The total weight of the material is 2153 kg.

This weight can be compared with that of mounted material for a bucket produced in 500 and 400 HB (water-quenched), that is, 2691 kg. The difference in

weight is of the order of 538 kg which can be converted into maintained supplementary volume of 300 litres at each operation of the bucket. The gain in production, in a mining work cycle, may be calculated for a bucket filling and unloading cycle every 30 seconds on average.

Taking into account a minimum availability of 90% of hours worked per day (out of 23

operating hours and 1 hour of maintenance), we can count 21 effective hours per day. This makes it possible to establish a production gain of 756 m<sup>3</sup> per day, and therefore 23,000 m<sup>3</sup> per month.

Thus, the ENDURA in

this application is considered a significant production improvement factor for the hydraulic shovel.

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