

At the XI International Conference on surface mining – OMC 2014, an expert paper is presented – “Comparative analysis of the excavator SRs 2000 effectiveness in the mines of EPS and MIBRAG”, written by Lazar Zivkovic, Milan Lazic and dr Dragana Polovina. This paper presents a comparative analysis of the effectiveness of excavator SRs 2000, over a period of 10 years who operates on the overburden excavation on open cast mines of EPS and MIBRAG.

Analyzed excavators operate on a total of four open pit mines, two in EPS and two in MIBRAG. At the open pit mine “Tamnava West Field” one bucket wheel excavator SRs 2000 operate, while on open cast mine “Drmno” three bucket wheel excavator SRs 2000 are engaged. On open cast mines “Schleenhain” and “Profen” bucket wheel excavators SRs 2000 are in operation.

Explaining why this excavator was the subject of the study, the authors state that it is one of the bestselling models of the German company “TAKRAFF”. So far 56 excavators of this type are sold, and they are currently working in Germany, Bulgaria, Kazakhstan, Poland, Hungary, Romania, Macedonia, Greece, Czech Republic and Serbia. A number of different models of this excavator is made, with various structural variations length.

The study is based on data obtained from the analysis of the main indicators of the effectiveness of bucket wheel excavators. These include: average annual production of excavators, excavator effective operating time, the time and capacitive utilization ratio, and ultimately achieved excavator capacity.

Analyzing the operation of bucket wheel excavator SRs 2000 on the open cast mines of EPS and MIBRAG, for the period from 2004 to 2013, the authors came to the conclusion, that the bucket-wheel excavator at open cast mines of MIBRAG have better indicators of effective operation, and have a greater capacity achieved, while the effective operating time is approximately the same.

If on open cast mines of EPS, achieved capacities would be improved in the future, the authors point out that it is necessary to increase the reliability of the machine during operation, and thus enlarge its generated achieved capacity. Improving the reliability of the excavator can be enhanced by better and more regular excavator maintenance, they say, as well as technical innovations, by improving of production planning, and better open cast mine dewatering.