

Development of the design of a laboratory vibro-grinding machine for preparing samples for metallographic research

Safarov D., Kondrashov A., Khafizov I.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd. The article presents the results of testing a prototype vibro-grinding laboratory machine for making samples for metallographic examination. The effectiveness of the method and its suitability for the preparation of thin sections during laboratory studies in the discipline "Material Science" have been established.

<http://dx.doi.org/10.1088/1757-899X/412/1/012064>

References

- [1] Bekkert M and Klemm H 1986 Handbuch der metallographischen Atzverfahren (Leipzig: VEB Deutscher Verlag für Grundstoffindustrie)
- [2] GOST 1778-70 Stell Metallographic methods for the determination of nonmetallic inclusions
- [3] Kas'yanov S V, Kondrashov A G, Safarov D T and Faskhutdinov A I 2017 Durable grinding head for universal machines Russian Engineering Research 37 912-15
- [4] Safarov D T, Kondrashov A G, Faskhutdinov A I and Zairov B F 2017 Design of grinding plates for a universal grinding machine Russian Engineering Research 37 1014-16
- [5] Astaschenko V I, Zapadnova E A, Zapadnova N N and Mukhametzyanova G F 2016 Predicting structure microalloyed steel products for different purposes IOP Conference Series: Materials Science and Engineering 134 012029
- [6] Kasjanov S V, Kondrashov A G and Safarov D T 2014 Research of characteristics of wearproof coating for cutting tools INTERFINISH-SERIA 2014: International Conference on Surface Engineering for Research and Industrial Applications 124
- [7] Kas'yanov S V, Kondrashov A G and Safarov D T 2017 Rapid Assessment of Wear-Resistant Tool Coatings Russian Engineering Research 37 969-73
- [8] Akhmetov I D, Zakirova A R, Sadykov Z B and Khafizov I I 2017 New electrode-tool for the combined kerf of electrically conductive materials IOP Conference Series: Materials Science and Engineering 240 012003
- [9] Khafizov I I and Galimov A N 2017 IT-strategy and major aspects of quality management on the market of goods and services IOP Conference Series: Materials Science and Engineering 240 012038
- [10] Khafizov I I 2017 Ways of decrease in the material consumption in case of their separation by the combined methods IOP Conference Series: Materials Science and Engineering 240 012037
- [11] Khafizov I I 2016 Economic efficiency and effectiveness of ways of separating materials electro diamond processing IOP Conference Series: Materials Science and Engineering 134 012014
- [12] Khafizov I I 2015 Processing methods with imposing of electric field at low- waste division of materials IOP Conf. Series: Materials Science and Engineering 86 012013