

Analysis and development of methods for obtaining metallic powders for selective laser melting

Kashapov R., Kashapov L., Kashapov N.

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

Abstract

The paper compares the existing methods for obtaining metal powder compositions and reveals their shortcomings. A technique for evaluating the properties of powders for suitability for use in selective laser melting (SLM) processes is proposed. Analysis of methods for obtaining powders has shown the need to investigate the possibility of using a plasma-electrolyte process in the production of consumables for SLM technology.

<http://dx.doi.org/10.1088/1757-899X/240/1/012071>

References

- [1] 2017 Journal of Alloys and Compounds 691 316-322 15 January
- [2] 2017 International Journal of Heat and Mass Transfer 104 665-674 1 January
- [3] 2017 Scripta Materialia 126 41-44 1 January
- [4] Kashapov L., Kashapov N. and Kashapov R. 2013 Journal of Physics: Conference Series 479 012011 Article number
- [5] Denisov D., Kashapov N. and Kashapov R 2015 IOP Conference Series: Materials Science and Engineering 86 012005 26 June Article number
- [6] Kashapov L., Kashapov N., Kashapov R and Denisov D. 2016 Journal of Physics: Conference Series 669 012029 14 January Article number
- [7] Clayton J. 2014 Metal Powder Report 69 14-17 September-October
- [8] Hausnerova B., Mukund B. and Sanetnik D. 2017 Powder Technology 312 152-158
- [9] Abdul Kareem T. and Anu Kaliami A. 2012 Ionics 18 315-327