

Experimental study of the polymer powder film thickness uniformity produced by the corona discharge

Fazlyyyakhmatov M.

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

Abstract

© Published under licence by IOP Publishing Ltd. The results of an experimental study of the polymer powder film thickness uniformity are presented. Polymer powder films are produced by the electrostatic field of corona discharge. Epoxy and epoxy-polyester powder films with thickness in the range of 30-120 microns are studied. Experimentally confirmed possibility of using these coatings as protective matching layer of piezoceramic transducers at frequencies of 0.5-15 MHz.

<http://dx.doi.org/10.1088/1742-6596/789/1/012005>

References

- [1] Dastoori K, Makin B and Telford J 2001 J. Electrostat. 51-52 545-551
- [2] Wu S 1976 Polym.-Plast. Technol. Eng. 7 119-220
- [3] Kleber W and Makin B 1998 Part. Sci. Technol. 16 43-53
- [4] Boncza-Tomaszewski Z and Penczek P 2002 Macromol. Symp. 187 417-425
- [5] Kleber W 1993 J. Electrostat. 30 393-402
- [6] Prasad L K, McCinity J W and Williams R O 2016 Int. J. Pharm. 505 289-302
- [7] Khan M K I, Schutyser M A I, Schroen K and Boom R M 2012 J. Food Eng. 111 1-5
- [8] Liston E M, Martinu L and Wertheimer M R 1993 J. Adhes. Sci. Technol. 7 1091-1127
- [9] Bailey A G 1998 J. Electrostat. 45 85-120
- [10] Bosshard G 1982 Prog. Org. Coat. 10 205-212
- [11] Weiss K D 1997 Prog. Polym. Sci. 22 203-245
- [12] Gavrilova V A, Kashapov N F and Kashapov R N 2011 Biomedical Engineering 45 198-200
- [13] Gavrilova V A, Fazlyyyakhmatov M G and Kashapov N F 2013 Repair, Rebuild, Modernization 12 13-16
- [14] Denisov E S, Temyanov B K, Sagdiev R K and Fazlyyyakhmatov M G 2014 IOP Conf. Series: Mater. Sci. Eng. 69 012014
- [15] Sagdiev R K, Denisov E S, Evdokimov Yu K, Fazlyyyakhmatov M G and Kashapov N F 2014 IOP: Conf. Ser. Mater. Sci. Eng. 69 012012
- [16] Gavrilova V A, Fazlyyyakhmatov M G and Kashapov N F 2013 J. Phys.: Conf. Series 479 012010
- [17] Gavrilova V A, Fazlyyyakhmatov M G and Kashapov N F 2014 Russian Physics Journal 57 119-123
- [18] Gavrilova V A, Fazlyyyakhmatov M G and Kashapov N F 2014 J. Phys.: Conf. Series 567 012023
- [19] Ye Q, Steigleder T, Scheibe A and Domnick J 2002 J. Electrostat. 54 189-205
- [20] Ye Q and Domnick J 2003 Powder Technol. 135-136 250-260
- [21] Fazlyyyakhmatov M and Kashapov N 2014 High Temperature Material Processes 18 273-279