

Methods for Sound Absorption Coefficients. *Fibres and Polymers* 2012; 13, 10: 1348-1352.

10. Jin E, Cho G. Effect of Friction Sound of Combat Uniform Fabrics on Autonomic Nervous System (ANS) Responses. *Fibres and Polymers* 2013; 14, 3: 500-505.
11. Kawabata S. The Standardization and Analysis of Hand Evaluation. The Hand Evaluation and Standardization Committee Limited. Textile Machinery Society of Japan, 2nd Edition, 1980.
12. Wang B N, He M X, Zheng G B, Sue M C, Lin J H. *Clamping device*. No. CN202241000U. China patent, 2012.
13. Wang B N, He M X. *Material tension apparatus*. No. CN202265271U. China patent, 2012.
14. Wang B N, He M X. *Frictional sound testing equipment*. No. CN202256263U. China patent, 2012.
15. Wang B N, He M X, Zheng G B, Sue M C and Lin J H. *Clamping device*. No. M426030, pp. 8851-8856. Taiwan Patent, 2012.
16. Wang B N, He M X. *Material tension apparatus*. No. M421498, pp. 8797-8802, Taiwan Patent, 2012.
17. Wang B N, He M X. *Frictional sound testing equipment*, No. M426115, pp. 9357-9366, Taiwan Patent, 2012.
18. Foreman J E K. *Sound Analysis and Noise Control*, Van Nostrand-Reinhold, New York, NY, USA, 2012.
19. Marple SL. *Digital Spectral Analysis with Applications*. Prentice Hall, Englewood Cliffs, NJ, USA, 1987.
20. Wang P N, Cheng K B. Dynamic Drape Property Evaluation of Natural-Fiber Woven Fabrics using a Novel Automatic Drape Measuring System. *Textile Research Journal* 2011; 81, 13: 1405-1415.
21. Shyr T W, Wang P N, Lin J Y. Subjective and Objective Evaluation Methods to Determine the Peak-Trough Threshold of the Drape Fabric Node. *Textile Research Journal* 2009; 79, 13: 1223-1234.
22. Lin J Y, Wang P N, Shyr T W. Comparing and Modeling the Dynamic Drape of Four Natural-fiber Fabrics. *Textile Research Journal* 2008, 78, 10:911-921.
23. Shyr T W, Wang P N, Cheng K B. A Comparison of the Key Parameters Affecting the Dynamic and Static Drape Coefficients of Natural-Fibre Woven Fabrics by a Newly Devised Dynamic Drape Automatic Measuring System. *Fibres and Textiles in Eastern Europe* 2007; 15, 3(62): 81-86.
24. Tsai KH, Tsai M C, Wang P N, Shyr T W. New Approach to Directly Acquiring the Drape Contours of Various Fabrics. *Fibres and Textiles in Eastern Europe* 2009, 74(3), pp. 54-59.
25. Wang P N, Ho MH, Cheng K B, Murray R, Lin CH. A Study on the Friction Sound Properties of Natural-Fiber Woven Fabrics. *Fibres and Textiles in Eastern Europe* 2017, 122(2).

□ Received 04.05.2016 Reviewed 03.11.2016



Institute of Biopolymers and Chemical Fibres Laboratory of Microbiology

ul. M. Skłodowskiej-Curie 19/27, 90-570 Łódź, Poland

Tests within the range of textiles' bioactivity - accredited by the Polish Centre of Accreditation (PCA):

- antibacterial activity of textiles **PN-EN ISO 20743:20013**
- method of estimating the action of micro-fungi **PN-EN 14119:2005 B2**
- determination of antibacterial activity of fibers and textiles **PN-EN ISO 20645:2006**.
- method for estimating the action of micro-fungi on military equipment **NO-06-A107:2005** pkt. 4.14 i 5.17

Tests not included in the accreditation:

- measurement of antibacterial activity on plastics surfaces **ISO 22196:2011**
- determination of the action of microorganisms on plastics **PN-EN ISO 846:2002**

A highly skilled staff with specialized education and long experience operates the Laboratory. We are willing to undertake cooperation within the range of R&D programmes, consultancy and expert opinions, as well as to adjust the tests to the needs of our customers and the specific properties of the materials tested. We provide assessments of the activity of bioactive textile substances, ready-made goods and half products in various forms. If needed, we are willing to extend the range of our tests.

Head of the Laboratory: Dorota Kaźmierczak Ph.D.,
phone 42 6380337, 42 6380300 ext. 384,
mikrobiologia@ibwch.lodz.pl or ibwch@ibwch.lodz.pl

