- Carvalho V, Vasconcelos RM, Soares FM, Belsley M. Yarn diameter and linear mass correlation. *Journal of Nonde*structive Evaluation 2009; 28: 49–54.
- Caravalho V, Cardoso P, Belsley M, Vasconcelos RM, Soares FO. Yarn Irregularity Parameterisation Using Optical Sensors. Fibres & Textiles in Eastern Europe 2009, 17, 1: 26–32.
- Unal PG, Arikan C, Ozdil N, Taskin C.
 The effect of fibre properties on the characteristics of spliced yarns: Part II: Prediction of retained spliced diameter. *Textile Research Journal* 2010; 80: 1751–1758.
- Behtaj S, Sadri S, Tavanai H. Objective yarn bulk measurement through image analysis. *Journal of the Textile Institute* 2011; 12: 1094–1100.
- 21. Majumdar A, Mukhopadhyay S, Yadav R, Mondal AK. Properties of ring-spun yarns made from cotton and regenerated bamboo fibres. *Indian Journal of Fibre & Textile Research* 2011; 36: 18–23.
- Yuvaraj D, Nayar RC. A simple yarn hairiness measurement setup using image processing technique. *Indian Journal* of Fibre & Textile Research 2012; 37: 331–336.
- 23 Shady E, Qashqary K, Hassan M, Militky J. Image Processing Based Method Evaluating Fabric Structure Characteristics. *Fibres & Textiles in Eastern Europe* 2012; 20, 6A: 86–90.
- 24. Rukuižiene Ž, Kumpikaite E. Investigation of Initial Warp Tension and Weave Influence on Warp Yarn Diameter Projections. *Fibres & Textiles in Eastern Europe* 2013; 21, 5: 43–48.
- 25 Krupincova G, Drašarova J, Mertova I. Evaluation of yarn lateral deformation. AUTEX Research Journal 2013; 13, 1: 17–21.
- Zhong P, Kang Z, Han, S, Hu R, Pang J, Zhang X and Huang F. Evaluation method for yarn diameter uneveness based on image sequence processing. *Textile Research Journal* 2015; 85: 369–379.
- 27. Pavko-Čuden A, Stanković Elesini U. Yarn diameter in elasticized knitted structures. *Industria Textila* 2013; 64, 6: 313–320
- Pavko-Čuden A. Parameters of compact single weft knitted structure. Part 3, Fabric thickness and Knapton constant. *Tekstilec* 2010; 54, 1/3: 5–15.





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):



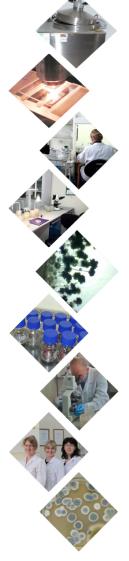


- antibacterial activity of textiles PN-EN ISO 20743:20013
- method of estimating the action of microfungi PN-EN 14119:2005 B2
- determination of antibacterial activity of fibers and textiles PN-EN ISO 20645:2006.
- method for estimating the action of microfungi on military equipment
 NO-06-A107:2005 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