for biocides as respiratory protective materials against bioaerosol. JOSE 2012; 18 (3): 375-386.
25. EN 13432:2000 Packaging - Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging.
26. PN-EN 1276:2000/Ap1:2001 Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas (Phase 2, step 1) Test methods and requirements.

Received 13.05.2014 Reviewed 25.07.2014

INSTITUTE OF BIOPOLYMERS AND CHEMICAL FIBRES

Team of Synthetic Fibres

The team conducts R&D in melt spinning of synthetic fibres

Main research fields:
- processing of thermoplastic polymers to fibres:
  - classic LOY spinning:
    - fibres of round and profiled cross-section and hollow fibres
    - special fibres including bioactive and biodegradable fibres
    - technical fibres, eg. hollow fibres for gas separation, filling fibres for concrete
  - bicomponent fibres:
    - side-to-side (s/s) type self-crimping and self-splitting
    - core/sheath (c/s) type
- processing of thermoplastic polymers to nonwovens, monofilaments, bands and other fibrous materials directly spun from the polymer melt,
- assessment of fibre-forming properties of thermoplastic polymers including testing of filterability

Equipment:
- Pilot-scale equipment for conducting investigations in melt spinning of fibres:
  - spinning frames for:
    - continuous fibres of 15-250 dtex,
    - bicomponent continuous fibres of 20 – 200 dtex
  - drawing frames for continuous filament of 15 – 2000 dtex
  - laboratory stand for spun bonded nonwoven 30 cm width
  - laboratory stand for investigations in the field of staple fibres (crimping, cutting line)
  - laboratory injection molding machine with a maximum injection volume of 128 cm³
  - testing devices (Dynosico LMI 4003 plasmatomer, Brabender Plasticorder PLE 330 with laboratory film extrusion device)
  - monofilament line for monofilaments of 0.3 – 1 mm diameter

Implemented technologies (since 2000):
- texturized polyamide fibres modified with amber for preparation of special anti rheumatic products
- polyolefin hollow fibres for gas separation
- bioactive polypropylene POY fibres
- modified polypropylene yarns
- polyolefin fibres manufactured from PP/PE wastes

Contact:
Team Leader: Krystyna Twarowska-Schmidt, Ph.D., Eng. tel: +48 42 638 03 24, e-mail: syntetyk@ibwch.lodz.pl