POLISH PACKAGING RESEARCH AND DEVELOPMENT CENTRE
11 KONSTANCIŃSKA Str., 02-942 WARSAW, POLAND
Tel. +48 22 842 20 11, Fax: +48 22 842 23 03, http://www.cobro.org.pl

POLISH PACKAGING RESEARCH AND DEVELOPMENT CENTRE

Prof. Hanna Żakowska
Greg Ganczewski
COBRO is a state, self-supporting research institution subordinated to the Ministry of Economy, founded in 1973

- Packaging Research and Development Department
  - Laboratory for Packaging Materials and Consumer Packaging Testing
  - Packaging and Environment Department
  - Food Packaging Specialist
- Laboratory for Transport Packaging Testing
- Certification Centre
- Information services
- Standardisation Department
COBRO is a member of:

- World Packaging Organisation (WPO)
- International Association of Packaging Research Institutes (IAPRI)
- European Bioplastics
- Polish Chamber of Packaging (KIO)
Laboratory for Packaging Materials and Consumer Packaging Testing

Certificate of accreditation No AB 185 of the Polish Centre for Accreditation according to PN-EN ISO/IEC 17025:2001

- Testing of physical and mechanical properties of packaging materials
- Barrier properties (CO₂, H₂O and O₂) of packaging materials
- Sensory analysis
- Sanitary and hygienic tests (overall and specific migration testing of low molecular substances from plastics packaging into foodstuffs, testing of the contents of monomers in plastics materials)
- NEW – Closure safety testing
- NEW – Sealing test
- NEW – FTIR and DSC analysis
Packaging and Environment Department

- Conformity assessments of packaging materials, primary, secondary and tertiary packaging and whole packaging systems according to the Directive 94/62/WE and Polish act on packaging and packaging waste.
- Market research of packaging industry and segments, marketing studies and questionnaire analyses based on respondents from own data bases.
- Internal and external training sessions
- Expert opinions and reports
- NEW - Life Cycle Assessment (LCA) of packaging and packaging elements, production, distribution and recovery processes (including recycling, disposal and environmental impact of recycled materials).
- NEW - Assessment of greenhouse gases emissions (carbon footprint) of packaging and all elements of production value chain, including all aspects of company management.
- NEW - Preliminary tests of biodegradation on the basis of packaging disintegration level in laboratory scale conditions of composting.
Publications of the Packaging and Environment Department
Laboratory for Transport Packaging Testing

Certificate of accreditation No AB 184 of the Polish Centre for Accreditation according to PN-EN ISO/IEC 17025:2001

- Testing of the packaging for dangerous goods in accordance with international regulations RID, ADR, IATA-DGR, IMDG-Code
- Testing of packaging for conformity with Polish and international standards
- Testing of packaging mechanical impact resistance in transport and storage
- Determining the resistance properties of corrugated board
- Climatic tests of packaging and packaging with products (in accordance with the customer’s standards)
Laboratory for Transport Packaging Testing
The Certification centre:

Certificate No AC 016 of the Polish Centre for Accreditation

- Packaging for dangerous goods for the UN mark, according to international regulations: RID, ADR, IMGD-Code, IATA-DGR
- Packaging and packaging materials for the Safety Mark „B”, conformity with standards and other normative documents
- Packaging and packaging materials useful to recycling
- Packaging machines for the Safety Mark „B” and conformity with standards
- Compostable packaging according to agreement and cooperation with DIN CERTCO (Germany) on certification system for compostable product as well as promotion of compostable mark in Poland
COBRO’s recent projects:

- Life Cycle Assessment of selected shopping bags - Prepared for the Polish Ministry of Environment
- CORNET - Biodegradable materials of Polylactic acid (PLA) for packaging
- EEA Financial Mechanism and the Norwegian Financial Mechanism - Packaging as a stimulus for economic growth of the region and improvement of the environment protection on the regional scale
- EUROPEAN STRUCTURAL FUNDS - Research Project MARGEN – Next Generation Organically Recyclable Packaging Materials
- CENTRAL EUROPE COOPERATIVE FOR SUCCESS - PLASTiCE - Innovative value chain development for sustainable plastics in Central Europe
Poland introduced the main objectives of the Directive 94/62/EC into the national regulations by adopting two parliamentary acts (effective since 1st January 2002):

- The Act of 11 May 2001 on Entrepreneurs' Obligations with regard to Management of Certain Waste, Product Fee and Deposit Fee (Official Journal 2001 no. 63 item 639)
The Polish legislation introduced obligatory recovery and recycling level of packaging waste (obligatory level for each material) by manufacturers introducing into the market goods in packaging.

Obligatory recovery and recycling level cover only traditional packaging material.

Biodegradable packaging is not covered by recovery and recycling obligations.
STEP 1
Interested company fills the certification application form in Polish/English

STEP 2
The form is sent to COBRO and translated/checked/corrected.

STEP 3
The application form is sent to DIN CERTCO.

STEP 4
COBRO maintains communication with the Polish company and informs about any developments, additional documents needed or corrections.
STEP 5
If successful, the certificate is sent to COBRO along with the invoice

STEP 6
When the invoice is paid by the company, COBRO officially sends the certificate to the company

STEP 7
COBRO assists in annual verification tests
A list of main products of Bioerg Company:

- T-shirt bags
- Market bags
- Bags for kitchen, biodegradable waste
- Little bags for groceries
Processing of biodegradable materials

At the stage of manufacturing of the foil:
- lower processing temperatures in comparison to traditional materials (lower energy consumption of the process)
- controllability and stability of processing temperatures
- possible necessity of additional drying before extrusion moulding

At the stage of manufacturing of the end product
- lower processing temperatures
- good anti-adhesive properties
- no necessity of activation of the foil before overprint
## Properties of biodegradable foils

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mes. unit</th>
<th>Advertisement bag made of BIOFOLIA</th>
<th>Advertisement bag made of PE-HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness of the foil</td>
<td>mm</td>
<td>0.018 – 0.021</td>
<td>0.016 – 0.025</td>
</tr>
<tr>
<td>Lateral disruption stress</td>
<td>MPa</td>
<td>27.6</td>
<td>22.7</td>
</tr>
<tr>
<td>Longitudinal disruption stress</td>
<td>MPa</td>
<td>39</td>
<td>33.4</td>
</tr>
<tr>
<td>Relative lateral elongation</td>
<td>%</td>
<td>474.4</td>
<td>769.9</td>
</tr>
<tr>
<td>Relative longitudinal elongation</td>
<td>%</td>
<td>230.4</td>
<td>387</td>
</tr>
</tbody>
</table>

Source: results of a series of research in the laboratory of ERG S.A.
Identifiability of compostable packaging
PLASTPOL 2008
Targi Kielce
dyplom
WYRÓŻNIEŃIE
XII Międzynarodowych Targów Przetwórstwa Tworzyw Sztucznych
za
opakowania z folii kompostowalnej - Biofolia
ografia
BIOERG Sp. z o.o.
z Dąbrowy Górniczej

BIOERG S.A.
42-520 Dąbrowa Górnicza
ul. Chemiczna 6
www.bioerg.pl
E-mail: bioerg@bioerg.pl

BIOERG - INSPIRUJE NAS NATURA
Thank you for your attention

Prof. Hanna Żakowska
Greg Ganczewski

Polish Packaging Research and Development Centre
11 Konstancińska Str., 02-942 Warsaw, Poland
Tel. +48 22 842 20 11, http://www.cobro.org.pl