

Flexible Packaging: 2026 Quick Reference

References: PPWR (EU) 2025/40, RecyClass v3.1, EN 18120-1:2026 · Edition I — April 2026 · Quick reference sheet, 2 pages

40 essential terms for buyers, process engineers and compliance specialists. The complete version with 127 terms, comparison tables and a decision guide is available at vlmpoliplast.ro/en/resources/technical-glossary/.

CORE POLYMERS	TECHNICAL PROPERTIES	PACKAGING TYPES
PE (Polyethylene) Flexible polymer, recycling code PE4. Density 920-952 kg/m³. The basis of the PE recycling stream for flexible packaging in the EU.	OTR (Oxygen Transmission Rate) cm³/m²/day. Lower is better. EVOH under 1, PE around 3000.	Pouch Flexible pack sealed on the edges. Food and non-food.
PP (Polypropylene) Rigid, heat-resistant up to 100°C, code PP5. Density 900-910 kg/m³. The only flexible polymer that withstands retort processing.	WVTR (Water Vapor Transmission Rate) g/m²/day. Critical for moisture-sensitive products.	Stand-up, Doypack Pouch with a base that stands upright. Doypack has a U-shaped base.
PET (PET) Density 1390 kg/m³. Outer layer in traditional laminates. Non-compliant with PPWR 2030 in flexible structures.	Density Expressed in kg/m³. Ranges from 900 (CPP) to 1390 (PET).	Quadseal 4-side seal. Coffee, pet food, high volume.
MDO-PE Uniaxially oriented PE. Replaces PET in recyclable mono-material PE/PE laminates.	Basis weight (gsm) Film mass per unit area, g/m². The main technical spec.	Flowpack, HFFS Horizontal automatic form-fill-seal from a roll.
BOPE Biaxially oriented PE. High mechanical strength, compatible with the PE4 stream.	Micron (µm) Film thickness. 1 µm = 0.001 mm. Typically 12-200 µm.	VFFS Vertical Form-Fill-Seal. Bulk, pillow bags.
BOPP Biaxially oriented PP. Printable outer layer, compatible with PP5.	Shelf-life Depends on OTR, WVTR and storage conditions.	Vacuum bag Multilayer structure for vacuum packing.
CPP (Cast PP) Non-oriented PP. Sealant layer in laminated structures.	Hot-tack Seal strength before full cooling. Critical for high-speed lines.	Polybag Mono-layer PE bag. Retail, transport.
EVOH Superior O ₂ barrier. Compatible with the PE stream under 5 wt% per RecyClass v3.1.	COF (Coefficient of Friction) PE typically 0.15-0.30. Controls packaging-line behaviour.	Retort pouch Resistant to severe thermal sterilisation.

ACCESSORIES & BARRIERS	PRODUCTION PROCESSES
Zipper (resealable) Sealed element for reclosing.	Solventless lamination No organic solvents. RecyClass compliance, reduced VOC emissions.
Spout Pour spout for liquids and semi-liquids.	Coextrusion (COEX) Simultaneous multilayer extrusion, no adhesive.
Degassing valve One-way valve. Coffee, CO ₂ release.	Printing Flexo (medium runs), rotogravure (large runs), digital (short runs).
Metallised Vapour-deposited metal layer. Penalises RecyClass (interferes with NIR sorting).	Slitting Cutting jumbo rolls into widths for conversion.
SiO_x, AlO_x Transparent ceramic coating. High barrier and recyclable.	Laser perforation Controlled micro-holes for gas exchange (produce).
Mono-material Minimum 95% single polymer. RecyClass Class A.	

PPWR 2030 compliance

Regulation (EU) 2025/40 · Applicable from 12 August 2026

PPWR recyclability classes

CLASS	RECYCLABILITY	EU MARKET 2030	EU MARKET 2038	EPR FEE	EXAMPLE STRUCTURE
A	min. 95% by weight	ALLOWED	ALLOWED	Reduced (bonus)	PE/PE mono-material, MDO-PE/PE, BOPP/CPP
B	80-94% by weight	ALLOWED	ALLOWED	Standard	PE/EVOH/PE (EVOH under 5 wt%)
C	70-79% by weight	ALLOWED	BANNED	Increased (malus)	PP/EVOH/PP with minor additives
D	under 70% by weight	BANNED	BANNED	N/A	PET/AL/PE traditional laminates
E	Non-recyclable	BANNED	BANNED	N/A	Multi-material with PVC, PVDC

Official technical criteria will be set through PPWR delegated acts, to be published by 1 January 2028. Until then, RecyClass v3.1 is the industry-accepted reference tool.

ESSENTIAL PPWR TERMS	MATERIAL COMPATIBILITY		
PPWR (EU) 2025/40 Generally applicable from 12 August 2026. Mandatory recyclability takes effect from 1 January 2030.	MATERIAL	PE STREAM	PP STREAM
RecyClass v3.1 Assessment methodology developed by Plastics Recyclers Europe. Updated August 2025.	PE, PE-LD, PE-HD	YES	NO
Eco-modulated EPR Fees differentiated by class. 3x to 8x difference between Class A and non-recyclable.	MDO-PE, BOPE	YES	NO
Declaration of Conformity Mandatory for every pack placed on the EU market from 12 August 2026.	PP, BOPP, CPP	NO	YES
PFAS (Art. 5 PPWR) Banned in food-contact packaging from 12 August 2026. Limits: 25 ppb, 250 ppb, 50 ppm.	EVOH under 5 wt%	Conditional	Conditional
EN 18120-1:2026 CEN standard for Design for Recycling. Published 15 April 2026. Integrated into PPWR from 2028.	PA under 15 wt%	Conditional	NO
CSRD Corporate sustainability reporting. Includes packaging footprint under Scope 3.	Flexible PET	NO	NO
	Aluminium, metallised	NO	NO
	SiOx, AlOx	YES	YES
	PVC, PVDC	NO	NO

PE and PP are immiscible. They are not recycled together. Combinations require mono-polymer structures.

Critical transitions for PPWR 2030 compliance

PET / AL / PE	→	MDO-PE / EVOH / PE	CLASS A/B
BOPP / AL / CPP	→	BOPP / SiOx / CPP	CLASS A
PET / metallised PE	→	BOPE / mono-material PE	CLASS A

Recyclable mono-material films

The VLM Polioplast range of mono-material PE and PP films. BOPP/CPP · MDO-PE/PE · BOPE/PE. Structures designed for compatibility with the PE and PP recycling streams, RecyClass Class A/B in correctly engineered structures.

vlmpoliplast.ro/en/materials/monomaterial-pe/

The 127 terms with full definitions

This quick reference sheet summarises 40 essential terms. The complete version includes extended definitions, comparison tables (PE vs PP vs PET, MDO-PE vs BOPE), an FAQ and a PPWR 2030 transition decision guide.

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