








**UJAEU** 



## 1 • Who we are

We are an integrated multi-utility company operating in **Europe** and **Canada**.

### The core business of ORLEN Group includes:

-  Oil processing
-  Production of fuels, petrochemicals and chemicals
-  Production and distribution of electric energy
-  Retail and wholesale of ORLEN Group's products
-  Exploration and extraction of hydrocarbons
-  Oil and fuel storage services
-  Laboratory, logistics, maintenance, repair, design and construction services



● POLSKA, Płock  
ORLEN  
headquarters

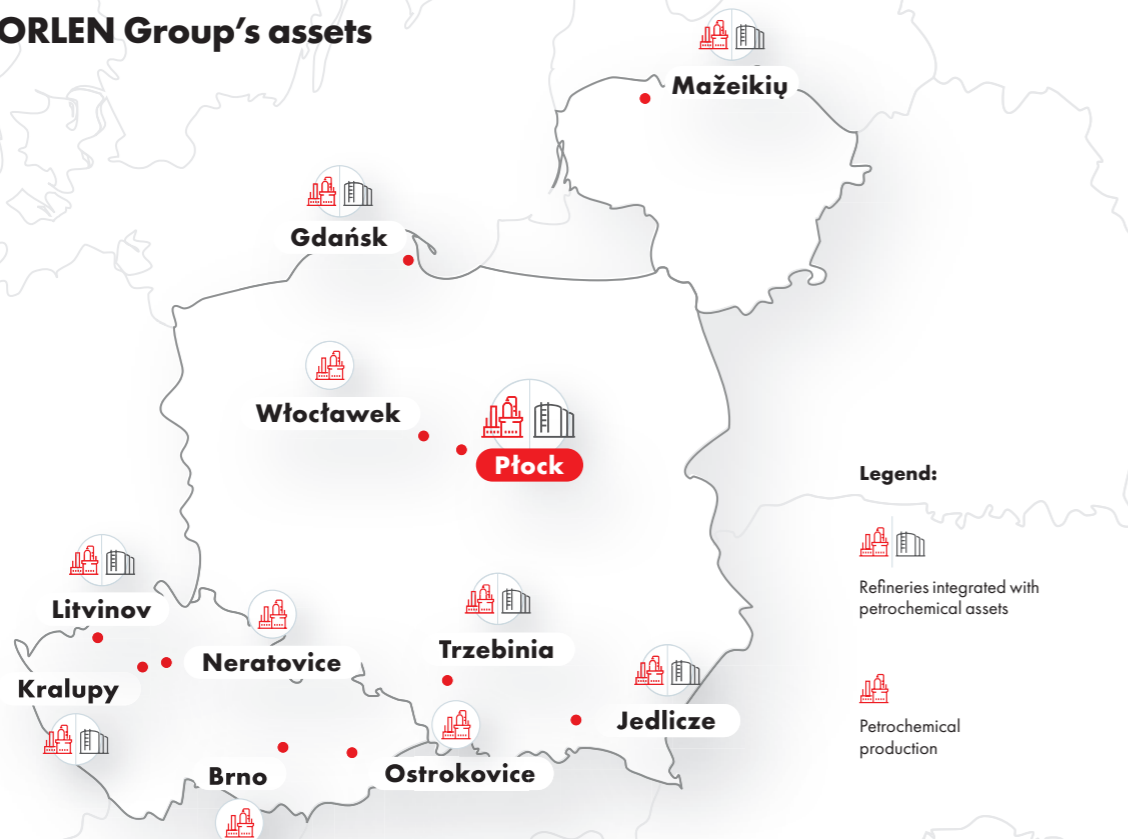
## 2 • Petrochemicals in ORLEN Group

- We are the largest petrochemical company in the CEE region. Our company manages integrated production assets in **Poland**, **the Czech Republic** and **Lithuania** as well as trading companies in **Germany**, **Hungary** and **Slovakia**.

Our portfolio consists of **more than 40 highest quality petrochemical products** applied in key consumer sectors, including automotive, packaging, construction and textiles.

We manage a comprehensive logistics service including road, rail and sea transport, as a result **our petrochemical products reach over 50 countries worldwide**.

### ORLEN Group's assets



#### Legend:



Refineries integrated with petrochemical assets



Petrochemical production

ORLEN - Malen E

## 3 • Low-density polyethylene (LDPE)

- **LDPE is a versatile polymer** offering, among other things, an excellent balance of properties including good melt strength, flexibility and excellent optics, making it suitable for multiple applications.

**Typical LDPE applications** include the production of industrial and consumer-tailored films used in the agricultural, construction and packaging sectors. LDPE features favourable permeability properties. It is practically water impenetrable however features good permeability to carbon dioxide and oxygen. These characteristics make the product suitable for the packaging industry.

Low-density polyethylene (LDPE) Malen E is **produced at the Płock Production Plant** through high-pressure polymerisation of ethylene in a tubular reactor. Malen E is distinguished by its high homogeneity and consistency of processing parameters, and guarantees excellent performance.





# 4 • Malen E

### Applications:

**F** - film  
**M** - injection

### Additives:

**A** - antioxidant      **N** - colourless  
**B** - anti-blocking agent      **S** - slip agent  
**G** - granulated product      **X** - no additives  
**L** - UV sorbing agent

**F | GNX | 23 | D 006**

Code indicating the density and melt flow rate

### Density range:

18: 0,919 – 0,923 g/cm<sup>3</sup>  
23: 0,921 – 0,925 g/cm<sup>3</sup>

### Three-digit indication of the melt flow rate (MFR) range:

003 – 0,20 – 0,40 g/10 min  
006 – 0,50 – 0,90 g/10 min  
022 – 1,70 – 2,20 g/10 min

## Typical properties\*

LDPE grade	MFR [g/10'] 190°C/2,16	Density [g/cm <sup>3</sup> ]	Vicat softening temperature [A50; 50°C/h 10N]	Coefficient of friction	Gloss	Turbidity [%]	Additives	Typical applications
▶ <b>Malen E FGAN 18-D003</b>	0,28	0,921	93	0,60	50	10	AO**	Industrial films
▶ <b>Malen E FGAN 23-D003</b>	0,28	0,924	96	0,60	65	7	AO**	Films for industrial purposes
▶ <b>Malen E FGAL 18-D003</b>	0,28	0,921	92	0,60	60	9	AO, UV**	Films for agricultural purposes
▶ <b>Malen E FGNX 23-D006</b>	0,70	0,923	93	0,60	60	8	-	Films for packaging purposes
▶ <b>Malen E FGAN 23-D006</b>	0,75	0,925	96	0,60	70	7	AO**	Films for packaging and lamination purposes
▶ <b>Malen E FABS 23-D006</b>	0,75	0,925	96	0,18	65	8	AO, S, AB**	Films for packaging and lamination purposes
▶ <b>Malen E FGNX 23-D022</b>	1,95	0,923	90	0,60	65	-	-	Films for packaging purposes
▶ <b>Malen E FABS 23-D022</b>	1,95	0,923	91	0,18	65	8	AO, S, AB**	Films for packaging purposes

\* Not to be considered as specifications.

\*\* Additives:

AO = antioxidant,      S = slip agent,  
AB = anti-blocking agent,      UV = UV stabiliser

Scan for more details on the product portfolio:



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## Malen E\*

Certified management systems

ORLEN holds an **Integrated Management System (IMS) certificate** in compliance with the following standards:

### ISO 9001:2015

(Quality Management System – QMS)

### PN-EN ISO 14001:2015

(Environmental Management System – EMS)

### PN-EN ISO 45001:2018

(Occupational Health and Safety Management System - HSMS)

### ISO/IEC 27001:2017-06

(Information Security Management System)

### PN-EN ISO 50001:2018-09

(Energy Management System)

## Compliance with legal regulations

- Regulation (EC) 1935/2004 of the European Parliament and of the Council.
- Commission Regulation (EU) No-10/2011.
- This product does not contain any substances listed in Annex XIV and on the Candidate List of Substances Identified as Substances of Very High Concern (SVHC) in quantities exceeding 0.1% pursuant to Regulation (EC) No-1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) - determined by means of a mass or non-use of the substances.
- Furthermore, the restricted substances listed in Annex XVII of the REACH Regulation are not intentionally used in the manufacturing process of this product. However, this product has not been tested for the content of these substances.\*\*

\* As part of the ongoing transition period, work is underway to integrate the LDPE plant into ORLEN S.A.'s Integrated Management System. The work is to be completed by the end of the year 2023.

\*\* A full list of grade-specific compliance is available upon request.

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## Malen E

Packaging, delivery and storage



### Packaging

**5 bags** (each **25 kg**) per layer, **11 layers**, pallet **1375 kg** net Pallet **dimensions: L 1100 x W 1300 x H 1850** (in mm), protected by stretch film

### PRS heat treated pallets:

- PRS is a member of the Faber Halbertma Group, operating a pooling system which collects pallets after use and arranges their re-use as part of a sustainable closed loop system
- PRS pallets remain the property of PRS at all times



### Delivery

The product is delivered in bags on pallets or bulk loaded into cisterns



### Storage

Pallets are stacked in maximum two layers and stored in a dry and ventilated covered warehouse. It is necessary to protect the product from direct sunlight and moisture

Do not ignite a fire in the vicinity of the storage location. Store at a sufficient distance from heating equipment. Measures must be taken to prevent electrostatic discharge and appropriate earthing must be applied during storage of bulk product. It is also necessary to protect the product from extreme temperatures and direct ultraviolet radiation. Moisture and contact with strong oxidisers must be avoided.

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# Contact

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