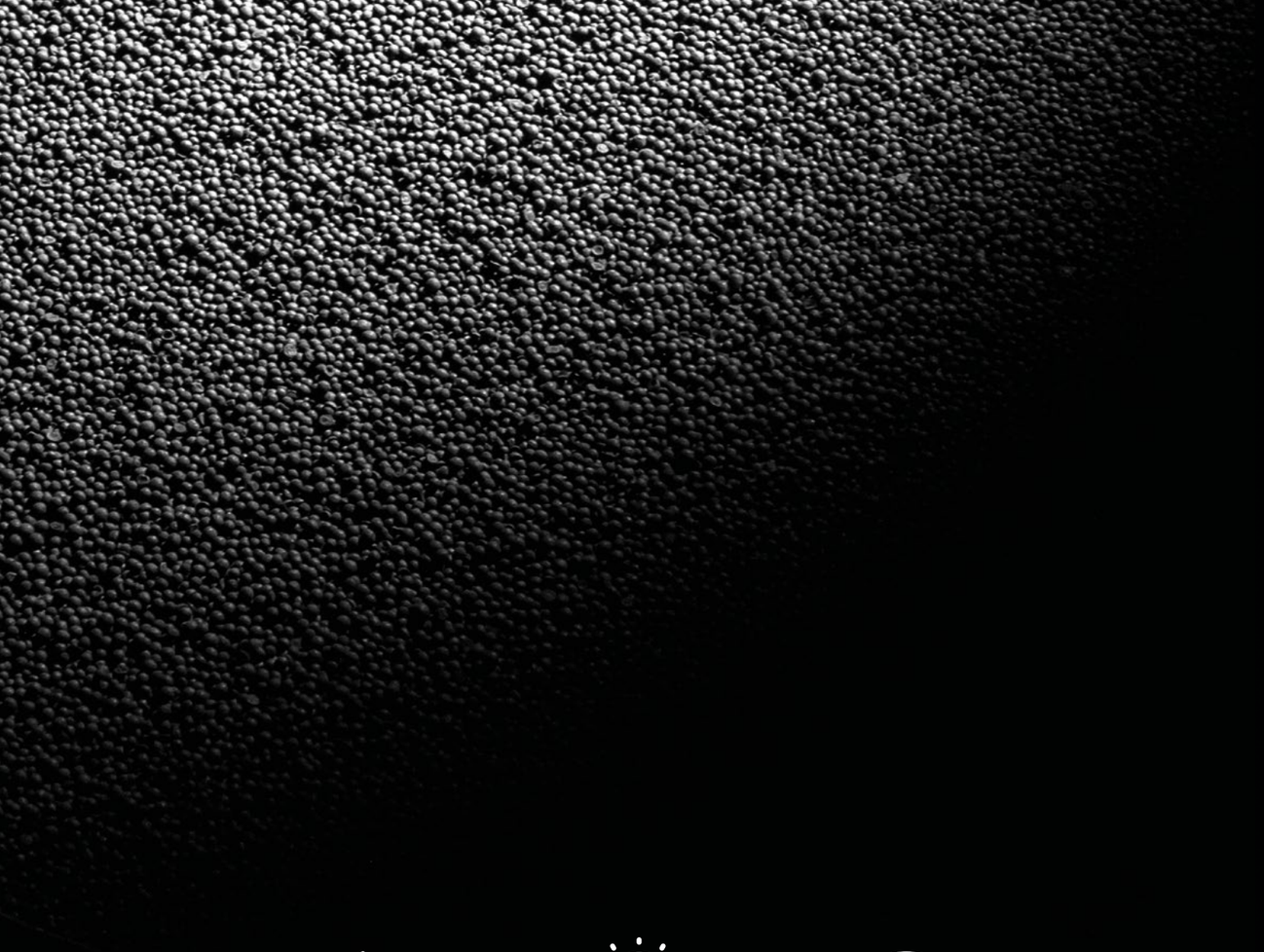
ORLEN Unipetrol

EN CHEZACARB®

EN CHEZACARB®

The **ORLEN Unipetrol** group is the biggest refinery and petrochemical company in the Czech Republic and the country's only crude oil processor. **ORLEN Unipetrol** is an indispensable part of Czech industry, and its specialization gives the group a unique position on the market. **ORLEN Unipetrol** is a significant producer and distributor of fuels, plastics, oils, lubricants, fertilisers and other products. It also operates ORLEN Benzina, the biggest network of petrol stations in the Czech Republic. **ORLEN Unipetrol** has been part of the multinational **PKN Orlen** refinery and petrochemical group since 2005.



HIGHLY ELECTROCONDUCTIVE CARBON BLACK AND MASTERBATCHES

CHEZACARB® AC – MAKROPLUS® CC

18
countries

2
R&D centers

48
years on the market

ORLEN Unipetrol RPA, producer of **CHEZACARB® AC**, has successfully expanded its portfolio with cost-effective electroconductive concentrates under the brand name **MAKROPLUS® CC**.

CHEZACARB® AC's competitive advantage is its particularly high electroconductive properties which make it superior to other materials on the market.

MAKROPLUS® CC products are available in all commonly used thermoplastics, such as PP, LDPE, HDPE, EVA, PA6, PS, PC and POM. They are designed to either be diluted by suitable plastics or directly processed using typical plastic processing technologies, such as injection moulding, extrusion, foil, container blow moulding and foam moulding.

HIGHLY ELECTROCONDUCTIVE CARBON BLACK FOR POLYMER MATERIALS

CHEZACARB® AC electroconductive carbon black is a by-product of what is referred to as "partial oxidation, where oil residues split off as a result of mixing oxygen and steam at high temperatures of around 1300 °C.

The produced carbon black consists of elementary carbon which is spherical in shape and forms aggregates and agglomerates. The purity and composition of carbon black is virtually free of any inorganic impurities and extractable organic substances, with amorphous carbon content exceeding 97%. The material is produced as spherical pellets 0.5–2.5 mm in size, the basic particle size being around 20 nm in size.

The extremely large specific surface area and highly developed porous structure of carbon black determines its main application. Adding relatively small amounts of carbon black to polymer materials modifies the electrical conductivity to produce new materials with properties ranging from antistatic to conductive.

CHEZACARB® APPLICATIONS

TYPICAL APPLICATIONS

- pipes, piping
- cables
- containers, jerrycans, car mats
- transport boxes, pallets
- flooring
- geomembranes

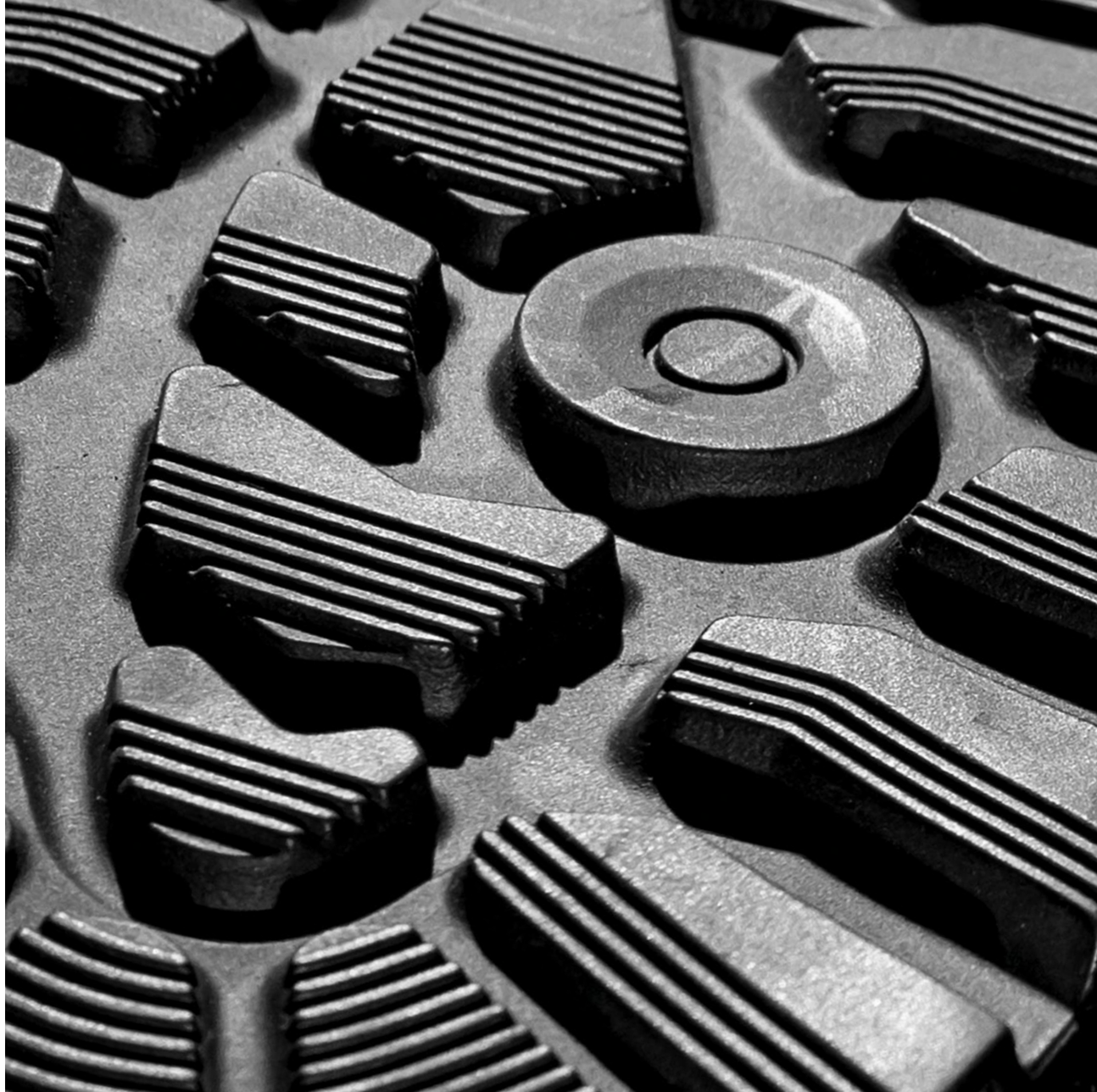
SPECIAL APPLICATIONS

- 3D printing
- fibres
- glues
- paints

CHEZACARB®
SPECIFICATIONS

SPECIFIC PARAMETERS	UNIT	TEST METH-OD	CHEZACARB AC10	CHEZACARB AC20	CHEZACARB AC30	CHEZACARB AC50	CHEZACARB AC60	CHEZACARB AC70	CHEZACARB AC80	CHEZACARB AC90
Nitrogen surface area	m^2/g	ASTM D 6556	815 – 1005	min. 810	min. 800	900 – 1100	min. 800	min. 800	min. 800	min. 800
Iodine adsorption number	mg/g	ASTM D 1510	1010 – 1140	1000 – 1200	min. 900	1050 – 1200	min. 950	min. 950	min. 950	min. 950
Oil absorption number	ml/100 g	ASTM D 2414 – 13A	365 – 400	350 – 420	min. 340	390 – 450	min. 380	min. 390	min. 390	min. 390
Toluene extractables	% wt.	DIN 53553	< 0.1	< 0.1	---	< 0.1	---	---	---	---
pH value		EN ISO 787-9	7.0 – 9.0	7.0 – 9.5	6.5 – 9.0	6.5 – 9.0	6.5 – 9.5	6.5 – 9.5	6.5 – 9.5	6.5 – 9.5
Volatile matter (105 °C)	% wt.	EN ISO 787-2	max. 0.30	max. 0.50	max. 0.80	max. 0.80	max. 0.80	max. 0.80	max. 0.80	max. 0.80
Ash content	% wt.	DIN 53586	max. 0.38	max. 0.4	max. 0.9	max. 1.6	max. 1.7	max. 1.8	max. 2	max. 5
Sulphur content	% wt.	ASTM D 1619	max. 0.23	max. 0.3	max. 0.5	max. 0.6	max. 0.6	max. 0.7	max. 0.8	max. 0.9
Fines content	% wt.	ISO 13322-2	max. 5	max. 8	max. 15	max. 10	max. 10	max. 20	max. 20	max. 20
Sieve residue 0.045 mm	ppm wt.	ASTM D 1514	max. 50	max. 50	max. 500	max. 50	max. 500	max. 500	max. 500	max. 500
Bulk density	g/l	ISO 1306	min. 118	min. 115	min. 115	min. 115	min. 112	min. 112	min. 112	min. 105
Appar. density after tamping	g/l	EN ISO 787-11	140 – 160	140 – 160	---	<150	---	---	---	---
Pellet hardness avg.	g	ASTM D 3313	max. 10	max. 10	max. 10	max. 10	---	---	---	---
Pellet hardness – hardest	g	ASTM D 3313	max. 20	max. 20	max. 20	max. 20	---	---	---	---
Specific electrical resistance	ohm.cm	Philips method	max. 50	max. 70	max. 80	max. 80	max. 80	max. 30	max. 20	max. 10
Vanadium content	ppm	RTG	max. 1200	max. 2000	max. 3000	max. 5000	max. 6000 *	< 8000 *	< 8500 *	---
Nickel content	ppm	RTG	max. 500	max. 1000	max. 1500	max. 2500	max. 3000 *			---
Iron content	ppm	RTG	max. 300	max. 500	max. 1000	max. 1800	max. 2500 *			---

* Informative value, the exact value is not guaranteed.



CHEZACARB®
REGISTRATION, CERTIFICATION

INTEGRATED MANAGEMENT SYSTEM

ORLEN Unipetrol RPA produces highly electroconductive carbon black **CHEZACARB® AC** using an Integrated Management System (IMS), which includes processes for managing quality, the environment, safety and energy.

The IMS has been certified by Lloyd's Register Quality Assurance Limited (LRQA) according to the following standards:

ISO 9001:2015 (Quality Management System – QMS)

ISO 14001:2015 (Environmental Management System – EMS)

ISO 45001:2018 (Occupational Health and Safety Management System – HSMS)

ISO 50001:2018 (Energy Management System – EnMS)

LRQA
CERTIFIED
ISO 9001 · ISO 14001
ISO 45001 · ISO 50001

ALL CB GRADES COMPLY WITH:

Regulation (EC) 1907/2006 REACH

Directive 94/62/EC (PPW)

Directive 2011/65/EU (EEE) (RoHS 2)

Directive 2015/863/EU (RoHS 3)

CHEZACARB®
PACKAGING, STORAGE AND TRANSPORT

PACKAGING:

CHEZACARB® AC can be delivered in PE sacks or PP big bags laid on thermally treated wooden pallets and fixed with a stretch hood foil.

- **5 kg sacks**

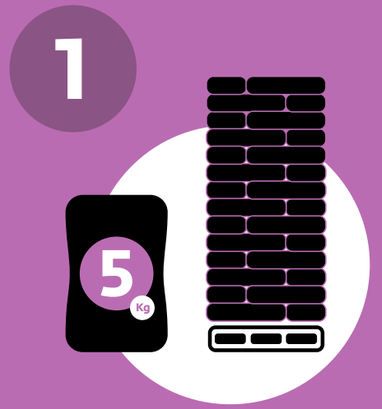
  (3 sacks per layer, a total of 14 layers) – 210 kg pallet (pallet size: 790 × 1190 mm)
- **BB 180 kg**

  180 kg pallet (pallet size: 790 × 1190 mm)
- **BB 150 kg**

  300 kg pallet (pallet size: 1000 × 1100 mm)

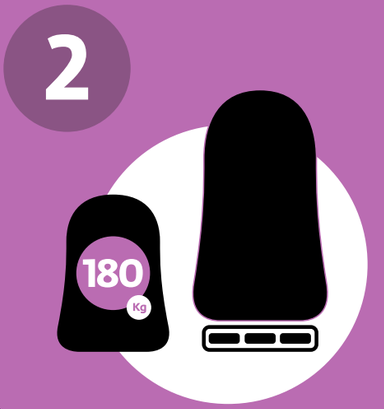
HANDLING AND STORAGE INSTRUCTIONS

For safe handling and storage, all fire protection regulations must be followed (no smoking, no work with naked flames, removal of all possible ignition sources), and persons must not come into direct contact with the product (use of personal protective equipment is required). We recommend storing the product in roofed areas protected from direct sunlight and away from oils, other flammable substances and any oxidising agents. The product can be stored inside intact packaging for the packaging's full service life, but only at ambient temperatures not exceeding 63 °C. In a dry environment, the product can be stored for 12 months without packaging, but only at ambient temperatures not exceeding 50 °C. The product must be protected from contact with water, oils and oxidising agents. When storing large quanitites, we recommend processing the product as soon as possible to prevent spontaneous combustion from occuring. The goods must not be stacked.



5 kg PACK:

3 sacks per layer
14 layers
210 kg pallet
pallet size: **790 x 1190 mm**



180 kg PACK:

180 kg pallet
pallet size: **790 x 1190 mm**

150 kg PACK:

300 kg pallet
pallet size: **1000 x 1100 mm**

CHEZACARB®
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