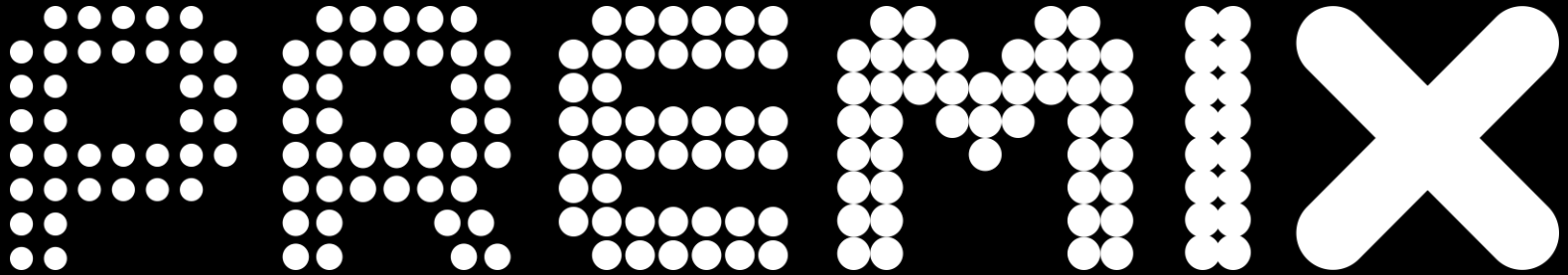


Conductive PRE-ELEC® compounds for Film Applications


"Creating a safe society
with functional materials"

High material requirements of transportation and packaging industries inspire us to continuously develop new durable materials.

ATEX regulation creates higher requirements and standards for explosive environments.

We have a wide variety of high-quality polyolefin based conductive film compounds.

Wearable technology and other flexible applications have inspired us to create our conductive TPU film grades portfolio.

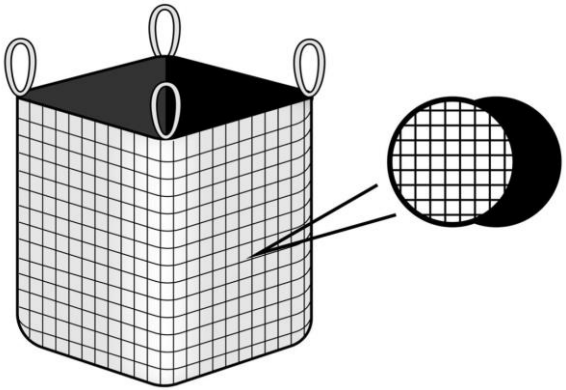
Our functional material solutions enable applications and innovations for a safe and technology-driven society.


PRE-ELEC® compounds
for conductive film applications

Special features for PRE-ELEC® film compounds

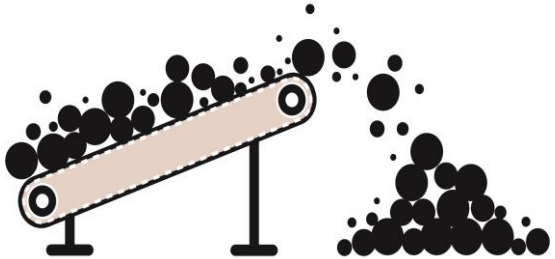
- High and durable conductivity
- Good dispersion
- Easy to process
- Affordable
- Recyclable
- Compatible with ATEX regulations
- High wear resistance

Safety
for packaging and transporting



Conductive liner films for FIBC type C

Conductive film packaging

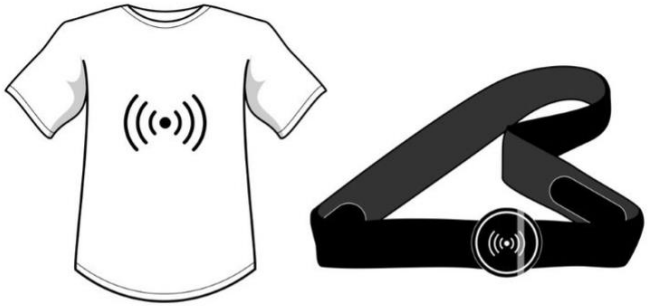


Conveyor belts

PREMIX

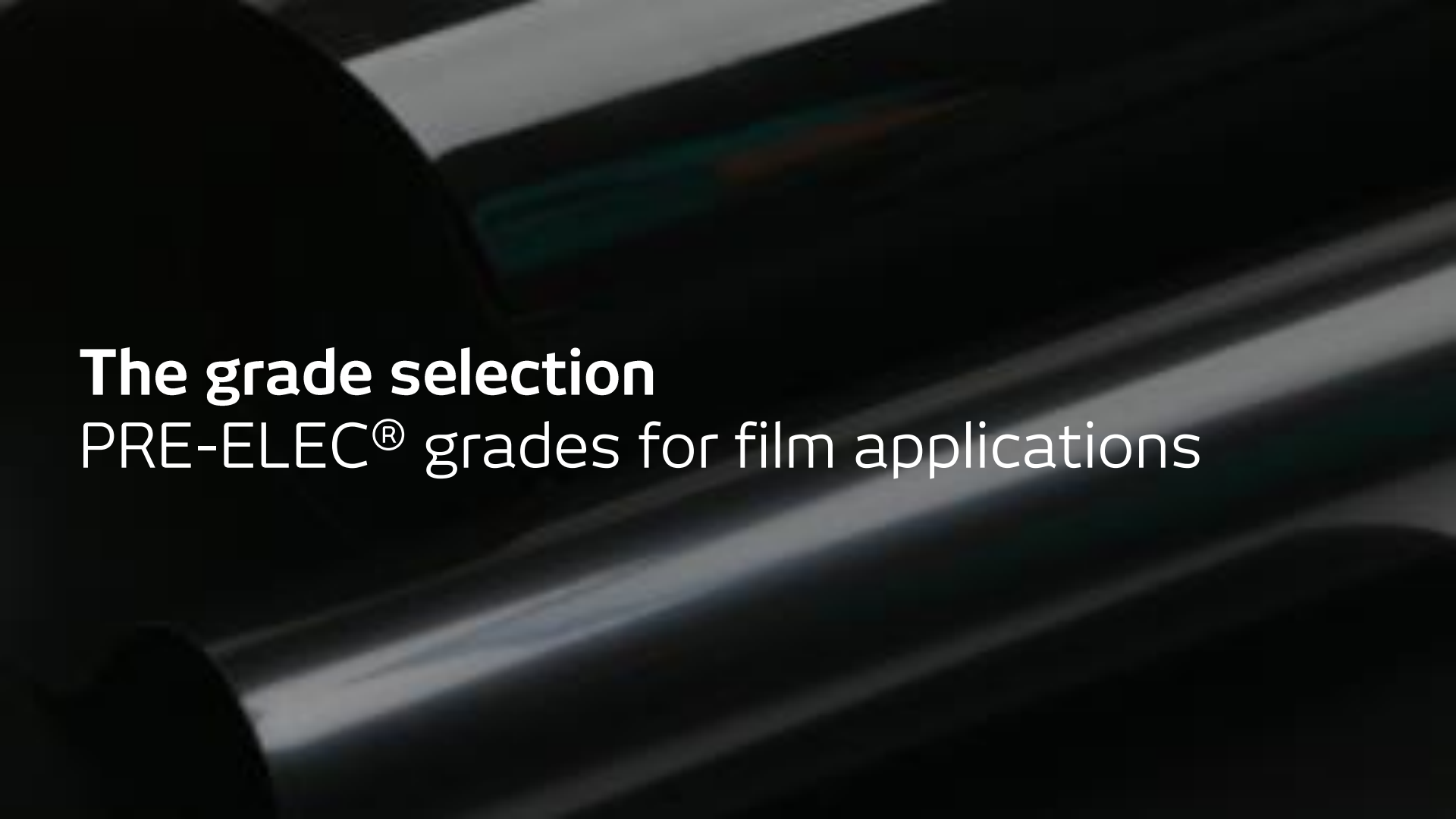
High performance
for wearables and accessories

High performance for wearables and accessories



Highly conductive, flexible and durable TPU materials for various technical applications.

Our material solutions, specially TPU grades, are designed for supporting the growth of the **wearables industry**, as our materials are ideal for **skin contact electrodes**.



The grade selection
PRE-ELEC® grades for film applications

The grade selection

PRE-ELEC® grades for film applications

Product	Base polymer	Special features	Typical applications
PRE-ELEC® PE 1271	PE-LD/LLD	High-class conductive film compound	Film and extrusion applications
PRE-ELEC® PE 18381	PE-LD	More flexible PE based compound	Film and extrusion applications
PRE-ELEC® PE 18912 Experimental grade	PE-LD/LLD	Cost-effective option for PE1271	Film and extrusion applications
PRE-ELEC® PE 17840	PE-LLD	Multipurpose concentrate	Film and extrusion applications
PRE-ELEC® PP 16156	PP-H	High conductivity/purity film grade	Film and extrusion applications
PRE-ELEC® TPU 18025	TPU ether	Highly conductive cast film grade	Wearables
PRE-ELEC® TPU 18435	TPU ester	Conductive compound for calendering	Conveyor belt applications and laminated fabrics

PRE-ELEC® PE 1271

PRE-ELEC® PE 1271 in blown film, 80 µm	Typical properties
Volume resistivity	70 Ωcm
Surface resistance	10^3 Ω
MFI, 190°C/5kg	2
Tensile strength	24 MPa
Elongation at break	600 %

- Highly conductive compound based on a blend of PE-LD/PE-LLD
- Filled with highly dispersed fine carbon black

Suitable for blown film and extrusion applications.

PRE-ELEC® PE 18381

PRE-ELEC® PE 18381 in extruded tape, 800 µm	Typical properties
Volume resistivity	14 Ωcm
MFI, 190°C/5kg	0,5
Tensile strength	30 MPa
Elongation at break	800 %

- Conductive compound based on PE-LD
- For applications requiring high flexibility

Suitable for blown film and tube applications.

PRE-ELEC® PE 18912

Experimental grade

PRE-ELEC® PE 18912 in extruded tape, 800 µm	Typical properties
Volume resistivity	70 Ωcm
Surface resistance	10^3 Ω
MFI, 190°C/5kg	2
Tensile strength	15 MPa
Elongation at break	400 %

- Cost-effective conductive compound based on a blend of PE-LD/PE-LLD
- Good dispersion

Suitable for blown film and extrusion applications.

PRE-ELEC® PE 17840

PRE-ELEC® PE 17840, 40% diluted film, 80 µm	Typical properties
Surface resistance	10^4 Ω
MFI, 230°C/21,6kg (100%)	5
Tensile strength	26 MPa
Elongation at break	500 %

- Multipurpose conductive concentrate based on PE-LLD
- Good dispersion
- Properties can be modified by choosing specific dilution polymers
- Can be diluted up to 50%

Suitable for blown film and extrusion applications.

PRE-ELEC® PP 16156

PRE-ELEC® PP 16156 in extruded tape, 800 µm	Typical properties
Volume resistivity	3 Ωcm
Surface resistance	10^2 Ω
MFI, 230°C / 5 kg	15
Tensile strength	35 MPa
Elongation at break	4 %

- Highly conductive compound based on PP-H
- Excellent dispersion and purity
- Suitable for film and extrusion applications
- Good chemical resistance
- Can be processed down to 50 µm thickness

Designed for battery applications where good chemical resistance, extreme purity, high conductivity and small layer thickness are needed.

PRE-ELEC® TPU 18025

PRE-ELEC® TPU 18025 in extruded tape, 400 µm	Typical properties
Volume resistivity	5 Ωcm
Hardness (Shore A)	90
Tensile strength	21 MPa
Elongation at break	> 500%
MFI, 190°C / 10 kg	2

PRE-ELEC® TPU 18025 film	Typical properties
Thickness	300 µm
Width	500 mm

- Highly conductive polyether based TPU
- High hydrolysis resistance
- High wear resistance
- Ideal skin contact electrode material
- Available in granules and 100 m film rolls

Our TPU grades are designed especially for supporting the growth of wearable technology.

The functional materials meet the extreme requirements wearables have. Our highly conductive elastomers are in e.g. flexible and durable. Materials can also be tailored according to your needs.

PRE-ELEC® TPU 18435

PRE-ELEC® TPU 18435 in extruded tape, 800 µm	Typical properties
Volume resistivity	17 Ωcm
Surface resistance	10^2 Ω
MFI, 190°C / 5 kg	4
Hardness (Shore A)	88
Tensile strength	37 Mpa
Elongation at break	1100%

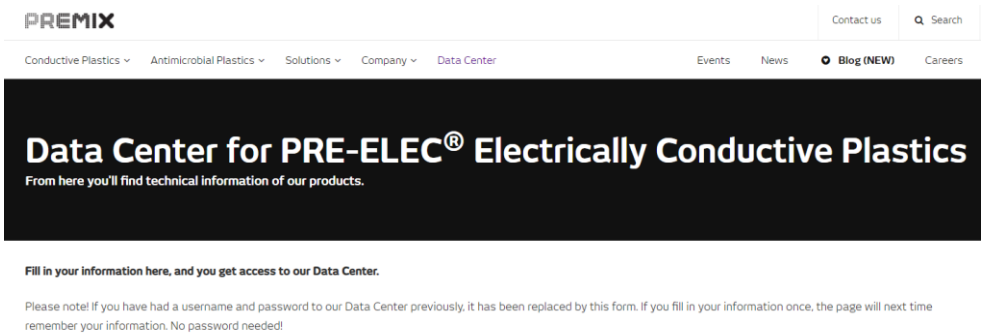
- Highly conductive polyester based TPU for calendering
- High wear resistance
- Conductivity withstands high pressure during processing
- Available in granules

Optimal for conveyor belt applications and laminated fabrics.

Premix Data Center
Technical datasheets

In our Data Center, we have collected **technical information** about our products for you, including **processing instructions** for PRE-ELEC® conductive compounds and concentrates.

https://premixgroup.com/data-center



Premix Oy
Pioneering since 1980’s

Premix Oy – Your reliable material supplier

European market leader and global forerunner in **Electrically Conductive Plastics**. Strong focus on developing future material solutions.

Long-term expertise in polymer compounding and material processing know-how.

The newly invested state-of-the-art machinery makes Premix **one of the strongest producers of conductive PP and PE compounds.** The portfolio covers a comprehensive **grade selection of compounds for film applications**.

Technical support available for trial runs.

Wide distributor network and local representatives in various countries.

Responsible Care
Our commitment to sustainability

QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001:2015

PREMIX


PREMIX
Family owned, independent company
Established 1980
110 employees
Sales revenue 46 M€ (2020)
Production capacity 70 kt/a
PREMIX
PREMIX

LET'S MAKE
A GOOD MIX

www.premixgroup.com