CHEZACARB®

CHEZACARB®

Product portfolio

CARBON BLACK

CHEZACARB® AC
COMMODITY PLASTICS

Commodity plastics (polyolefins and PS) are the most used polymers in the plastics industry and offer a wide range of processing and application possibilities. Blending them with **CHEZACARB® AC** increases the number of potential applications, as it improves product conductivity. Possible applications include sheets, films, pipes, ESD boxes and trays, ESD shielding products and many others.

CHEZACARB® AC decreases the final product's surface and volume resistivity and can be used in different matrices (LDPE, LLDPE, HDPE, PP and others) to achieve antistatic, static dissipative or conductive properties. You can find examples in the figures below.

The final product's electrical and mechanical properties are determined by **CHEZACARB® AC** concentration, polymer type, processing technology, and to a lesser extent, by additives which affect the quality of carbon black dispersion.

Percolation curves describe the dependence of volume resistivity on carbon black concentration and are the first guides for selecting an appropriate amount of carbon black to achieve desired compound conductivity.

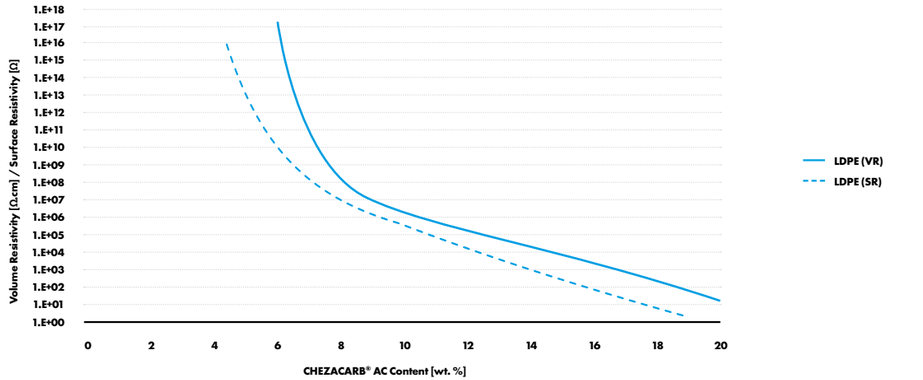
Using percolation curves in combination with mechanical property dependencies or the surface and volume resistivity of **CHEZACARB® AC** helps estimate the effect of plastic converters on a compound's final mechanical parameters. The graphs shown below are recommended only as guides for designing compounds in various plastic types.

Since compound electrical properties strongly depend on the mixing quality and processing technique, **ORLEN Unipetrol** recommends performing all tests in accordance with the technical standards applicable to the product before deciding on the product's composition.

CHEZACARB® AC
COMMODITY PLASTICS

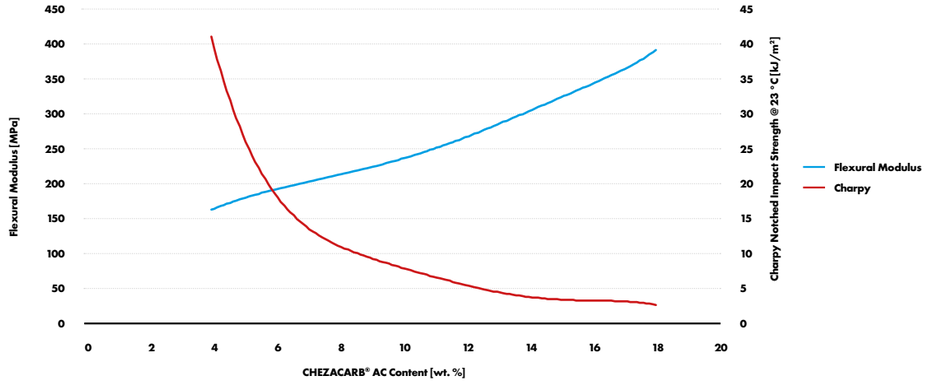
LDPE (MFR = 20 g/10 min @190 °C/2.16 kg)

measured on extruded sheets, thickness 1 mm



LDPE (MFR = 20 g/10 min @190 °C/2.16 kg)

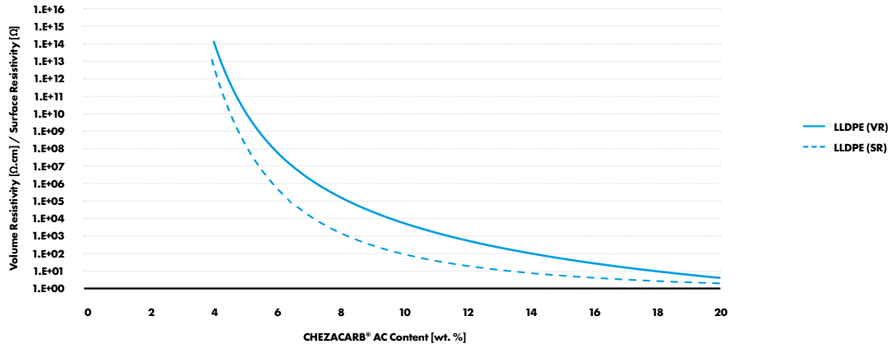
measured on injection moulded specimens



CHEZACARB® AC
COMMODITY PLASTICS

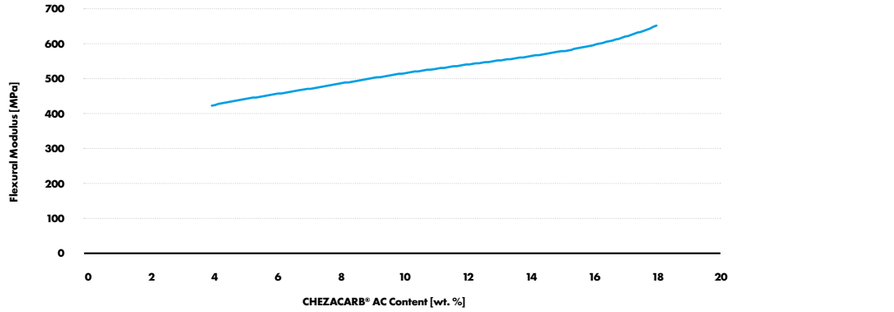
LLDPE (MFR = 20 g/10 min @190 °C/2.16 kg)

measured on extruded sheets, thickness 1 mm



LLDPE (MFR = 20 g/10 min @190 °C/2.16 kg)

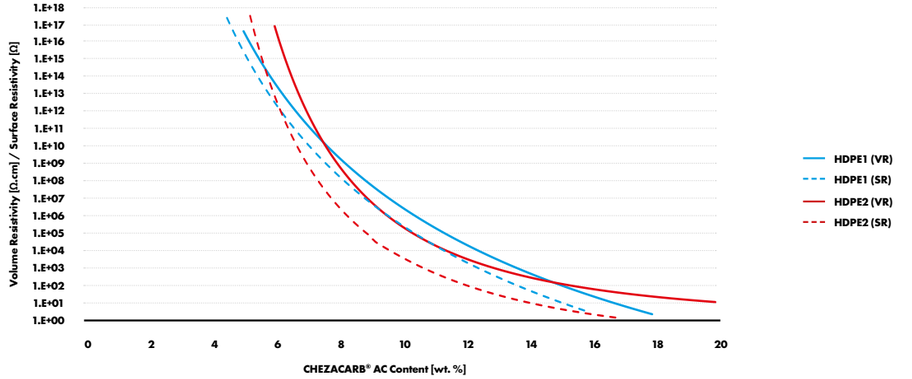
measured on injection moulded specimens



CHEZACARB® AC
COMMODITY PLASTICS

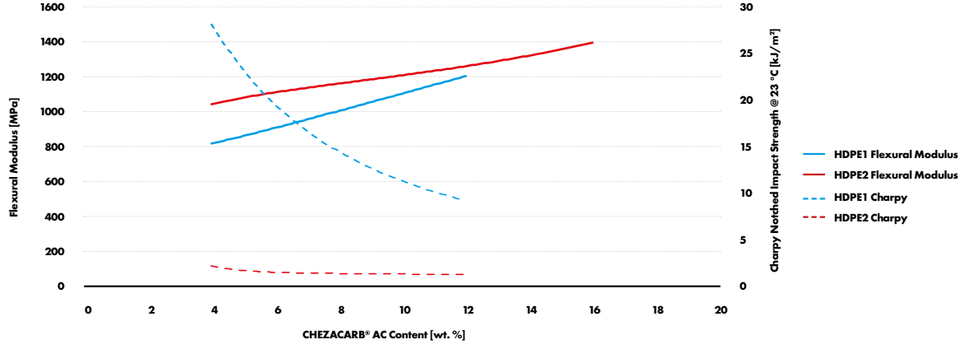
HDPE1 (MFR 0.15 g/10 min @190 °C/2.16 kg), HDPE2 (MFR 23 g/10 min @190 °C/2.16 kg)

measured on extruded sheets, thickness 1 mm



HDPE1 (MFR 0.15 g/10 min @190 °C/2.16 kg), HDPE2 (MFR 23 g/10 min @190 °C/2.16 kg)

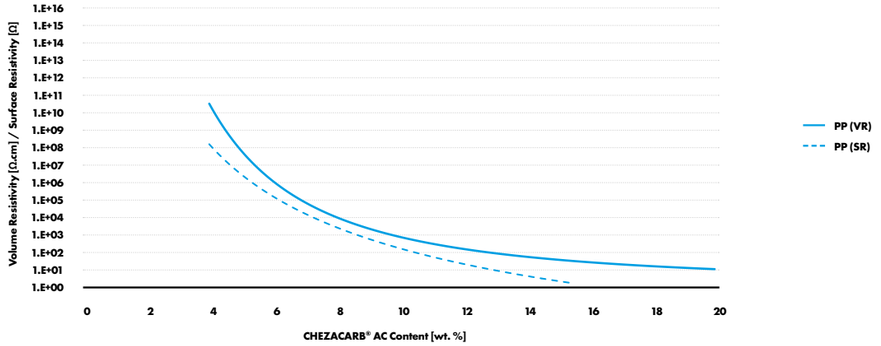
measured on injection moulded specimens



CHEZACARB® AC
COMMODITY PLASTICS

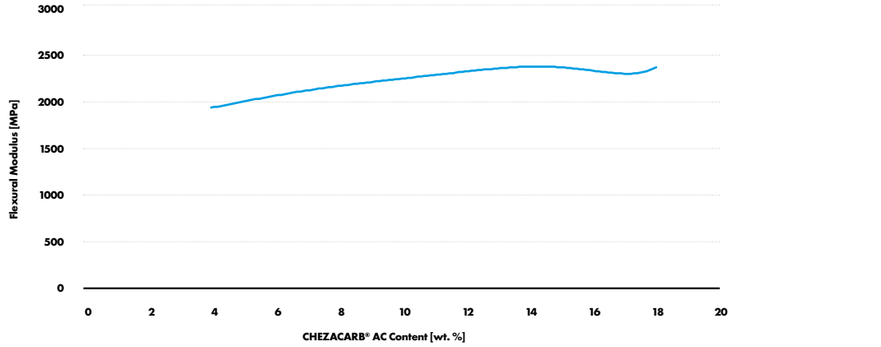
PP (MFR = 25 g/10 min @ 230 °C/2.16 kg)

measured on extruded sheets, thickness 1 mm



PP (MFR = 25 g/10 min @ 230 °C/2.16 kg)

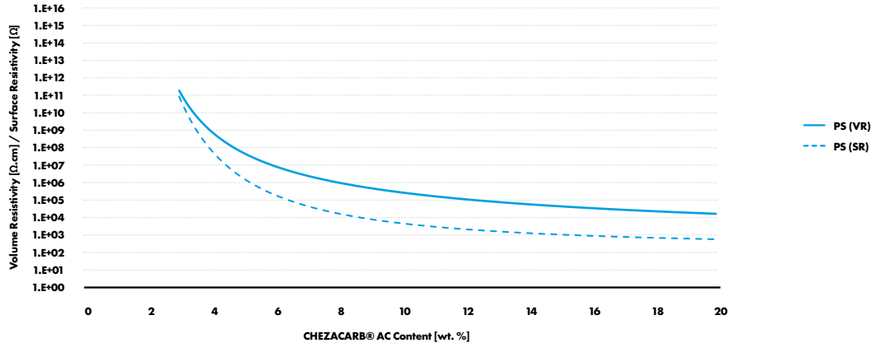
measured on injection moulded specimens



CHEZACARB® AC
COMMODITY PLASTICS

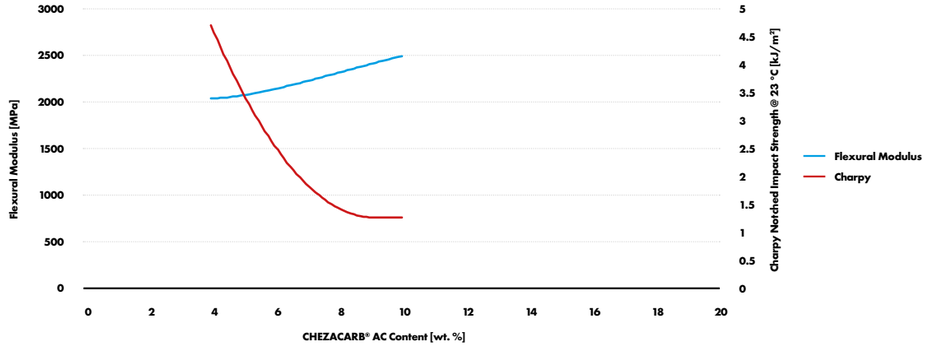
PS (MFR = 4 g/10 min @ 200 °C/5 kg)

measured on extruded sheets, thickness 1 mm



PS (MFR = 4 g/10 min @ 200 °C/5 kg)

measured on injection moulded specimens



CHEZACARB® AC
ENGINEERING PLASTICS

Engineering plastics are used as high-end and technical plastics for special technical, construction and other solutions.

Blending these plastics with **CHEZACARB® AC** increases the number of potential applications, as it improves final product conductivity. Possible products include sheets, electrotechnical parts, special ESD trays, filaments and boxes.

CHEZACARB® AC decreases surface and volume resistivity and can be used in different matrices such as PET, PBT, PC, ABS, POM, polyamides and many others. Examples are given in the figures below.

The final product's electrical and mechanical properties are determined by **CHEZACARB® AC** concentration, polymer type, processing technology, and to a lesser extent, by additives which affect the quality of carbon black dispersion.

Percolation curves describe the dependence of volume resistivity on carbon black concentration and are the first guides for selecting an appropriate amount of carbon black to achieve desired compound conductivity.

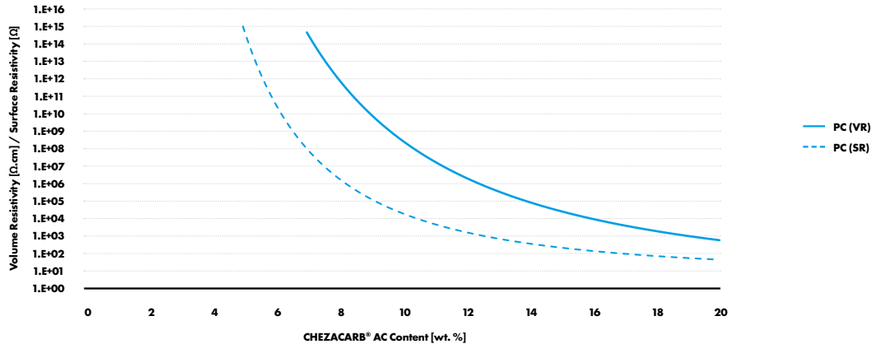
Using percolation curves in combination with the mechanical property dependencies or the surface and volume resistivity of **CHEZACARB® AC** helps estimate the effect of plastic converters on a compound's final mechanical parameters. The graphs shown below are recommended only as guides for designing compounds in various plastic types.

Since compound electrical properties strongly depend on the mixing quality and processing technique, **ORLEN Unipetrol** recommends performing all tests in accordance with the technical standards applicable to the product before deciding on the product's composition.

CHEZACARB® AC
ENGINEERING PLASTICS

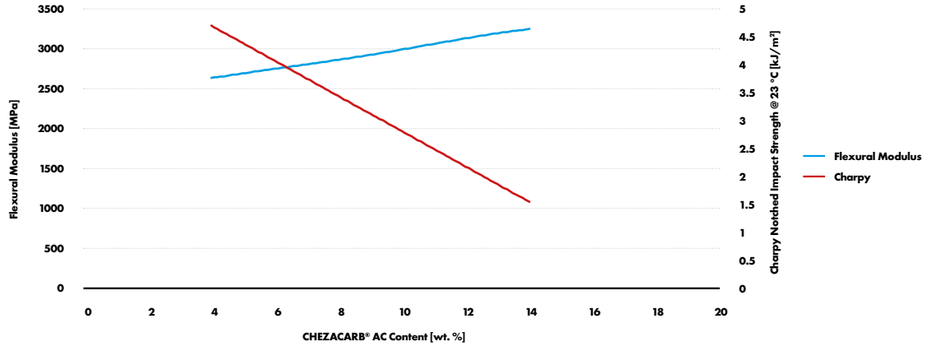
PC (MFR = 20 g/10 min @ 300 °C/1.9 kg)

measured on extruded sheets, thickness 1 mm



PC (MFR = 20 g/10 min @ 300 °C/1.9 kg)

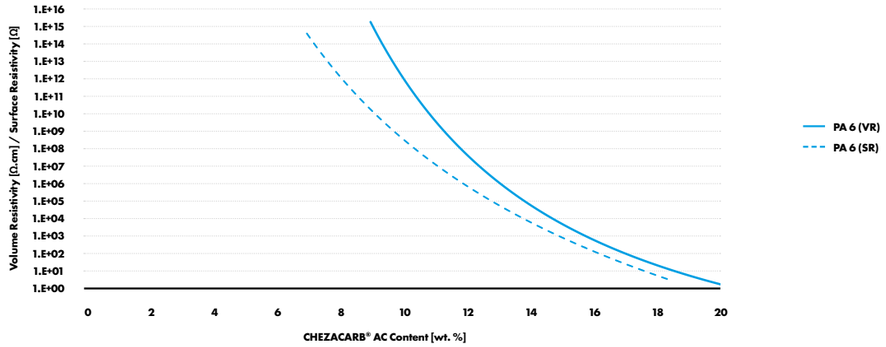
measured on injection moulded specimens



CHEZACARB® AC
ENGINEERING PLASTICS

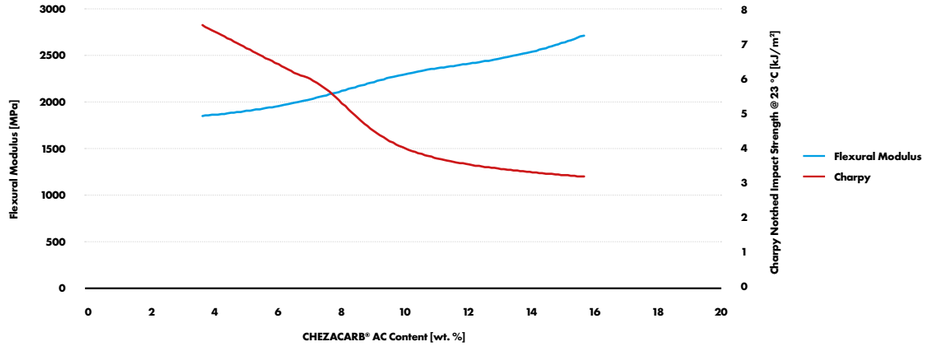
PA 6 (MFR = 6 g/10 min @ 230 °C/2.16 kg)

measured on extruded sheets, thickness 1 mm



PA 6 (MFR = 6 g/10 min @ 230 °C/2.16 kg)

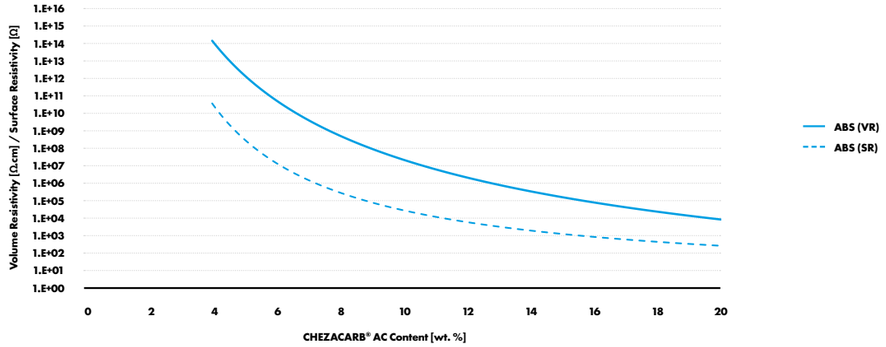
measured on injection moulded specimens



CHEZACARB® AC
ENGINEERING PLASTICS

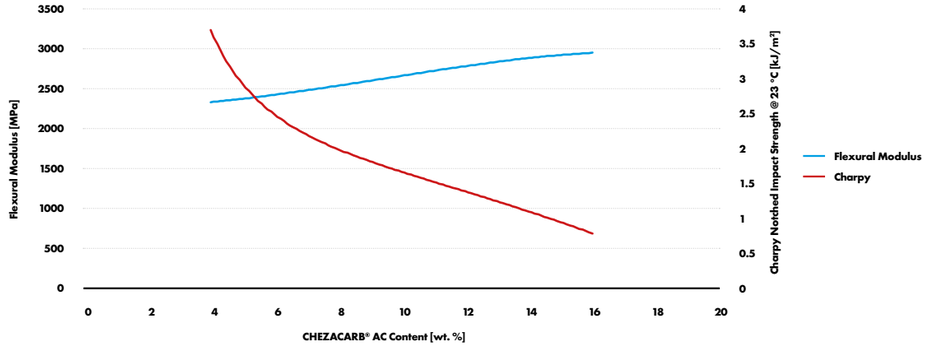
ABS (MFR = 19 g/10 min @ 220 °C/10 kg)

measured on extruded sheets, thickness 1 mm



ABS (MFR = 19 g/10 min @ 220 °C/10 kg)

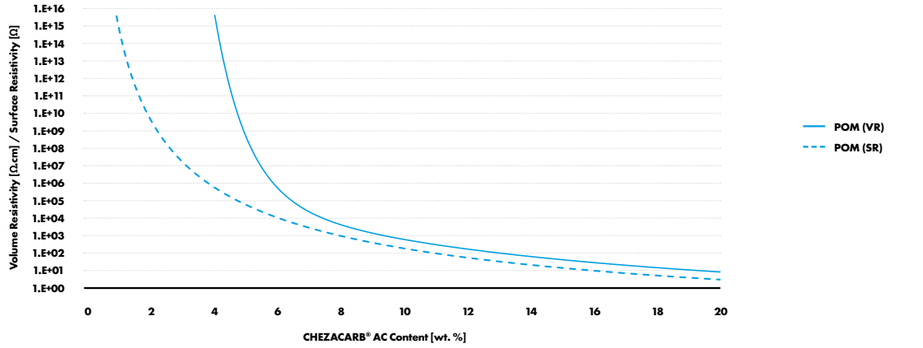
measured on injection moulded specimens



CHEZACARB® AC
ENGINEERING PLASTICS

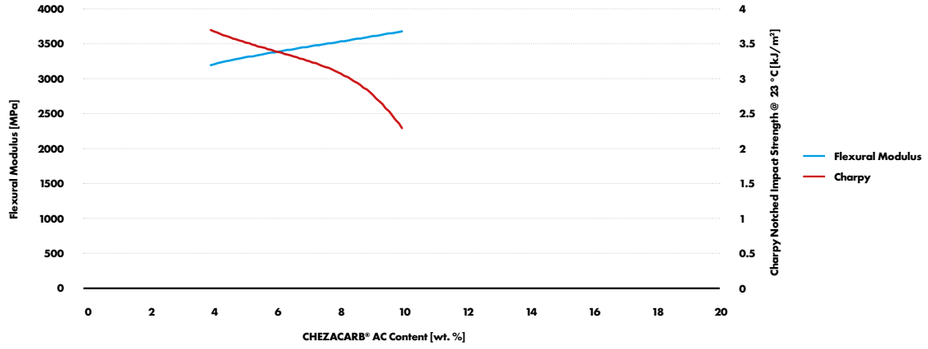
POM (MFR = 12 g/10 min @ 190 °C/2.16 kg)

measured on extruded sheets, thickness 1 mm



POM (MFR = 12 g/10 min @ 190 °C/2.16 kg)

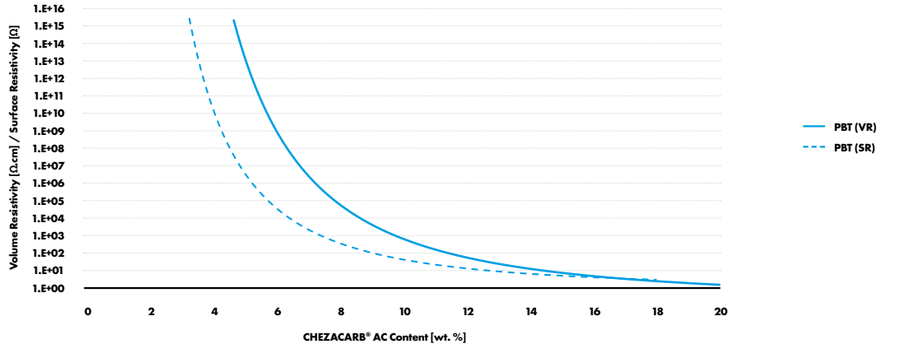
measured on injection moulded specimens



CHEZACARB® AC
ENGINEERING PLASTICS

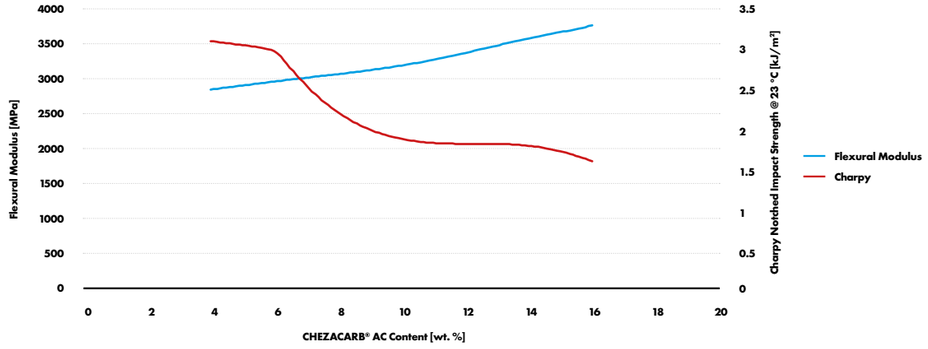
PBT (MFR = 24 g/10 min @ 250 °C/2.16 kg)

measured on extruded sheets, thickness 1 mm



PBT (MFR = 24 g/10 min @ 250 °C/2.16 kg)

measured on injection moulded specimens



CHEZACARB® AC
PVC

PVC is used in the plastics industry and offers a wide range of processing and application possiblities. Blending PVC with **CHEZACARB® AC** increases the number of potential applications, as it improves final product conductivity. It can be used in pipes, sheets, flooring, cabling and many other applications.

CHEZACARB® AC decreases the final product's surface and volume resistivity and can be used in different formulations. Application should be closely monitored since **CHEZACARB® AC** may absorb the plasticizer. Plasticizers also affect the product's final resistivity. Examples are given in the figures below.

The final product's electrical and mechanical properties are determined by **CHEZACARB® AC** concentration, polymer type, processing technology, and to a lesser extent, by additives which affect the quality of carbon black dispersion.

Percolation curves describe the dependence of volume resistivity on carbon black concentration and are the first guides for selecting an appropriate amount of carbon black to achieve desired compound conductivity.

Using percolation in combination with the mechanical property dependencies or the surface and volume resistivity of **CHEZACARB® AC** helps estimate the effect of plastic converters on a compound's final mechanical parameters. The graphs shown below are recommended only as guides for designing compounds in various plastic types.

Since compound electrical properties strongly depend on the mixing quality and processing technique, **ORLEN Unipetrol** recommends performing all tests in accordance with the technical standards applicable to the product before deciding on the product's composition.

CHEZACARB® AC
PVC