

PEBO*len*

POLYETHYLENE
COMPOUND

10.2019

PEBO

plastic materials • since 1987

●○● MADE IN ITALY



PEBOlen





Recycling

PEBO was amongst the first European companies to start producing compounds originating from recycled plastic.

Today **PEBO** continues its mission aimed at avoiding that a precious element such as plastic becomes a serious environmental hazard.

PEBO regenerates 45.000 tons of Polyethylene per year. This annual output strongly contributes to saving energy, reducing CO₂ emission in the atmosphere and especially avoiding the phenomenon of plastic dispersion into the environment.

PEBO purchases waste plastic materials that come from the industrial sector and garbage collection.

PEBO transforms the waste in "second life plastic raw materials" through a process of volumetric reduction and washing (using filtered water in a closed circuit).

The material is compounded with the scope of obtaining a new material ready to be used for the manufacturing of industrial products.

CURIOSITY

- One plastic bottle can endure in water or on the ground for one thousand years.
- If we recycle 1 kg of plastic, we can save 30 kWh of energy (n° 300 100-Watt light bulbs turned on for 1 hour).







Our company

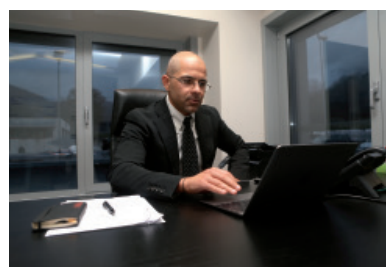
PEBO was established in 1987 in Tuscany with the aim of producing the highest quality compound, starting from recycling plastic waste.

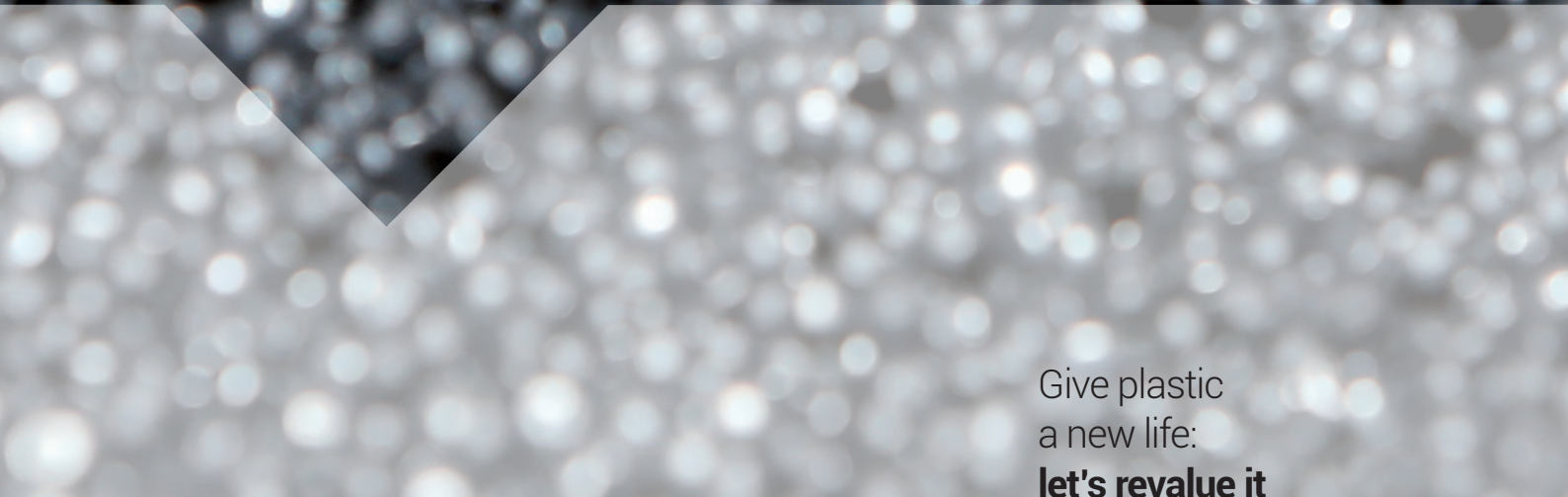
The company sits on a 30.000 m² site and employs more than 50 people that run:

- **Advanced compounding lines**
- **Integrated shredding, grinding and washing system**
- **Grinded scraps high technology washing line with a water decontamination system**
- **High Tech Laboratory**

Thanks to our avant-garde laboratory, we are in a position to select and guarantee high quality compounds for extrusion & blow moulding and for special application.

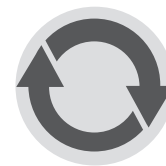
PEBO is equipped with machinery and instruments to become a 4.0 industry. Experience, reliability and quality are the success of our company.





Give plastic
a new life:
let's revalue it





Our production

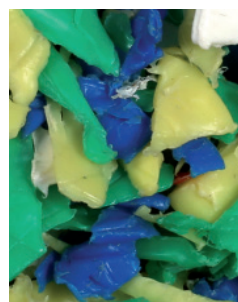
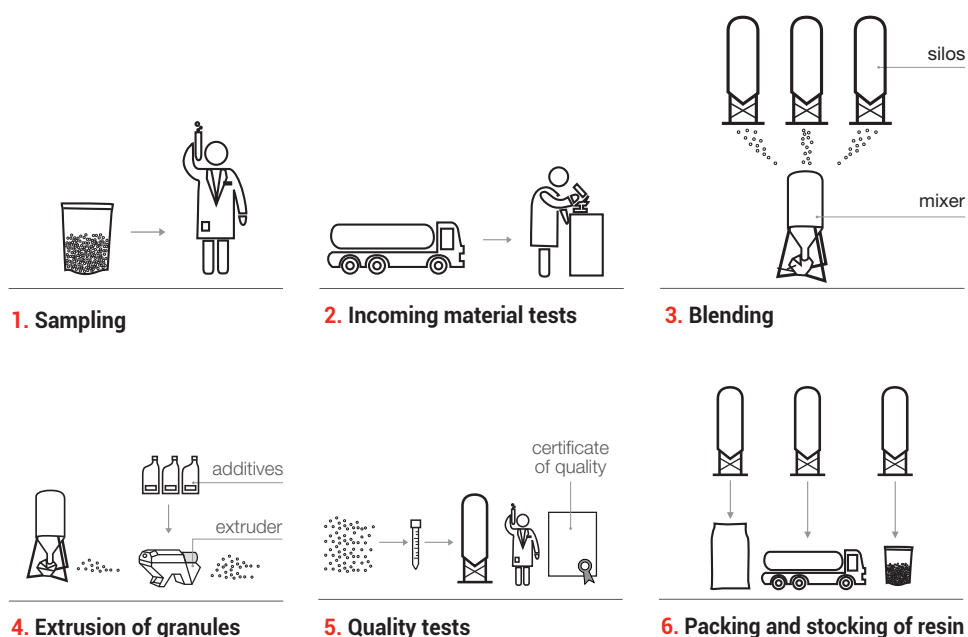
The raw materials used for the production of our compounds comes from:

- Industrial plastic waste
- Recycled post-consumer materials
- Off-spec. virgin polyethylene resin
- Chemical additives

Our compound production capacity is 45.000 ton per year.

PEBO has equipped all the production lines with the latest technology filters that guarantees a filtration of the material up to 100-micron.

The production cycle consists in six main stages:







Our quality

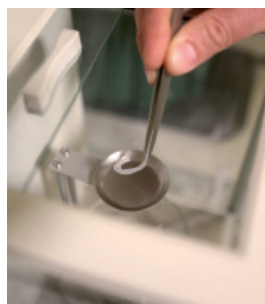
The Laboratory is the heart of **PEBO** success. Thanks to its sophisticated technology and skilled technicians, **PEBO** guarantees a constant quality control of the production processes and of the compound, from the first stage of production up to final shipment.

A fine selection of raw materials and its accurate blending before extrusion is the secret of **PEBO** quality.

testing lab

TYPE OF TEST	SCOPE
M.F.I. Method ISO 1133 / Unit g/10min	Certifies the fluidity of the material
DENSITY (g/cm ³)	Certifies the density of the materials. The product can be classified as either high or low density.
D.S.C. (min)	To identify contamination of different materials: for example percentage of polypropylene.
O.I.T. (min)	Resistance to oxidation aging.
HUMIDITY (ppm)	To check the presence of water.
TGA Carbon black content (%) Inorganic fillers (%)	To check the percentage of carbon black content and inorganic fillers.
FTIR	To identify the type of plastic.

Density



DSC
differential scanning calorimetry



FTIR
spectrometer

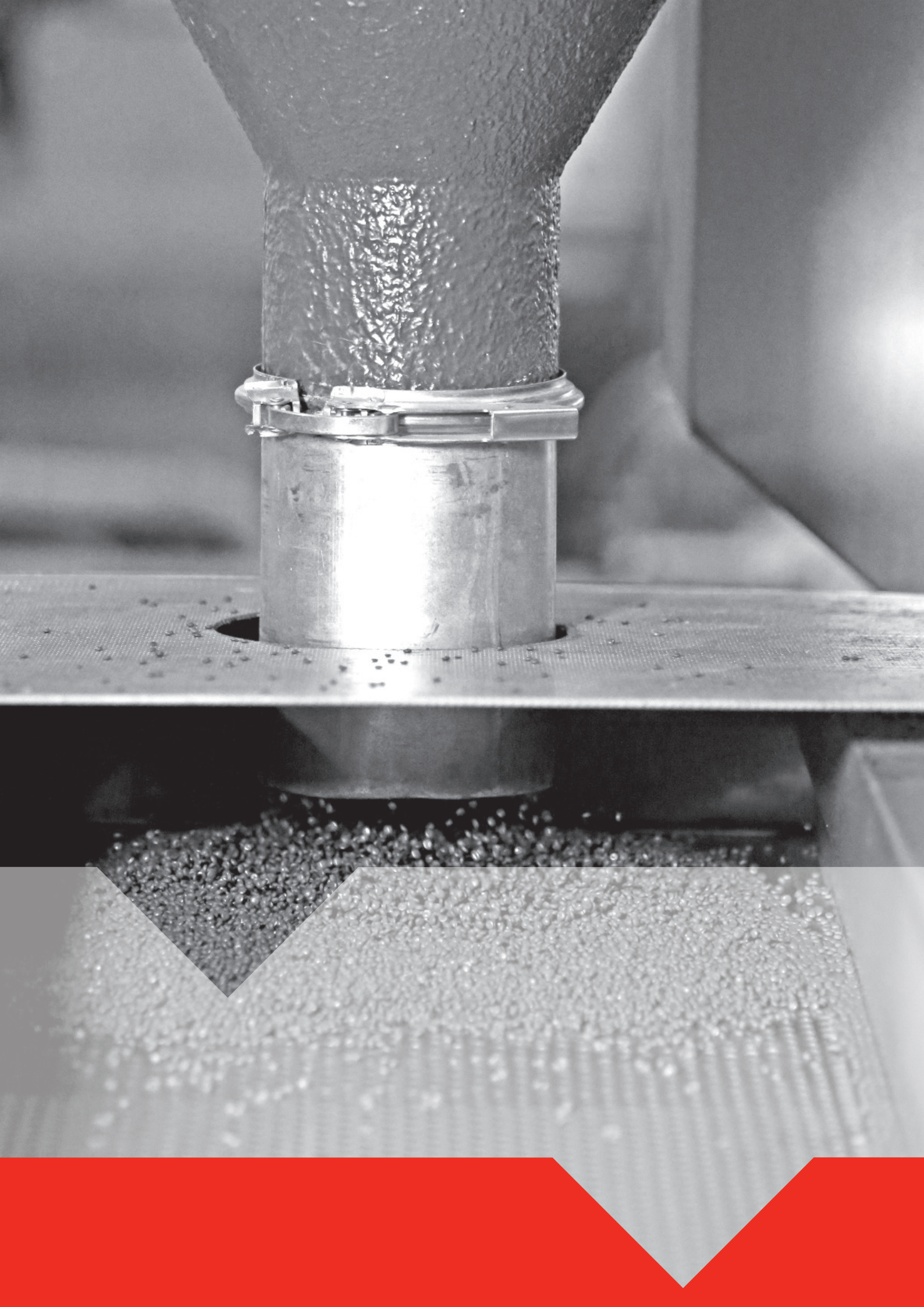


Karl fisher coulometer



Modular melt flow index tester





Our compound

All our Polyethylene compounds are produced with the latest technologies:

- **Twin screw extruders**
- **High precision gravimetric dosing systems**
- **Advanced filtration technology**



HDPE extrusion line



HDPE blow moulding line



LDPE extrusion line



On demand

More than 30 years of experience



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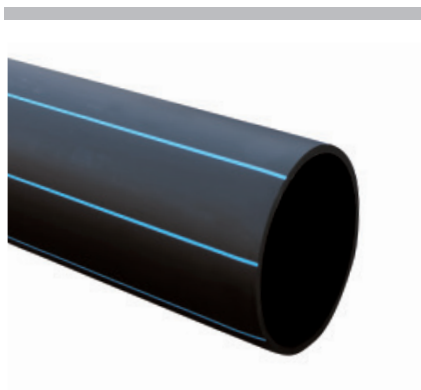
HDPE extrusion line

The compound that comes from our extrusion lines is the result of carefully selected, homogeneous, washed and filtered blends. Additives are blended in to enrich the compound.

The low flow index and strict standardization process (before and after granulation) classify these as the most suitable materials for pipe extrusion.

Our range of materials is the response to different production and quality requirements (water, irrigation, sewage, drainage and telecommunication pipes).

We can provide the most appropriate material for all types of pipe requirements.





PEBOlen

HDPE 80100

COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black
APPLICATION: extrusion

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.08 - 0.18	ISO 1133
190°C - 5 kg	g/10 min	0.35 - 0.70	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.945 - 0.958	ISO 1183
MELTING POINT	°C	130 - 138	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 450	ISO 527-1:2012
TENSILE STRENGTH AT BREAK	Mpa	19 - 22	ISO 527-1:2012
O.I.T. 200°C	minutes	> 20	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	slight traces in the formulations of the original products		
ASH, METALS	slight traces in the formulations of the original product		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

Produced with post-industrial and off grade recycled materials, added with carbon black which increases its UV resistance and added with antioxidant which increases its resistance to oxidation.

Not suitable for food contact.

All the information contained in this sheet is purely indicative; therefore, it is advisable to always contact the company for requests, particular uses and different and / or customized formulations.





PEBOlen

HDPE 80070

COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black
APPLICATION: extrusion

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.08 - 0.18	ISO 1133
190°C - 5 kg	g/10 min	0.35 - 0.70	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.945 - 0.958	ISO 1183
MELTING POINT	°C	130 - 135	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 350	ISO 527-1:2012
TENSILE STRENGTH AT BREAK	Mpa	17 - 21	ISO 527-1:2012
O.I.T. 200°C	minutes	> 20	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 2 %	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance and added with antioxidant which increases its resistance to oxidation.

Not suitable for food contact.

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PEBolen

HDPE 8330 plus

COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black
APPLICATION: extrusion

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.1 - 0.19	ISO 1133
190°C - 5 kg	g/10 min	0.4 - 0.75	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.945 - 0.960	ISO 1183
MELTING POINT	°C	130 - 135	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 350	ISO 527-1:2012
TENSILE STRENGTH AT BREAK	Mpa	16 - 21	ISO 527-1:2012
O.I.T. 200°C	minutes	> 20	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 5%	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance and added with antioxidant which increases its resistance to oxidation.

Not suitable for food contact.

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PEBOlen

HDPE 8330

COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black
APPLICATION: extrusion

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.1 - 0.19	ISO 1133
190°C - 5 kg	g/10 min	0.4 - 0.75	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.945 - 0.960	ISO 1183
MELTING POINT	°C	130 - 135	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 350	ISO 527-1:2012
TENSILE STRENGHT AT BREAK	Mpa	16 - 21	ISO 527-1:2012
O.I.T. 200°C	minutes	-----	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 5%	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

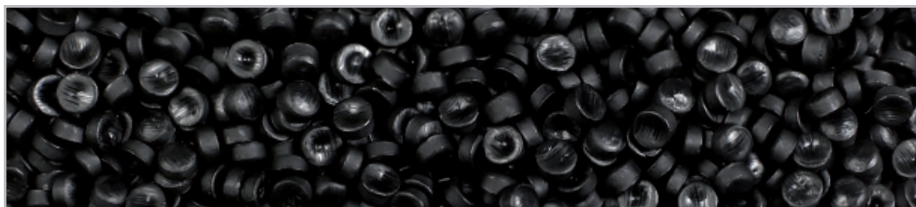
Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance. Not suitable for food contact.

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HDPE Extrusion Line - Spiral Pipe

NEW!

Thanks to its mechanical properties, this is our most suitable material for the production of spiral pipes. This material is the result of an intense R&D, analysis and tests carried out during the production process.





PEBOlen

HDPE 80080

COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black
APPLICATION: extrusion

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.1 - 0.16	ISO 1133
190°C - 5 kg	g/10 min	0.4 - 0.65	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.950 - 0.960	ISO 1183
MELTING POINT	°C	130 - 135	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 350	ISO 527-1:2012
TENSILE STRENGHT AT BREAK	Mpa	18 - 21	ISO 527-1:2012
O.I.T. 200°C	minutes	> 20	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 2%	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

Produced with post-industrial recycled materials, added with carbon black, which increases its UV resistance and added with antioxidant which increases its resistance to oxidation.

Not suitable for food contact.

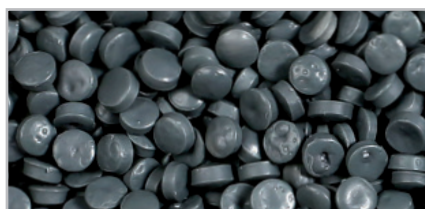
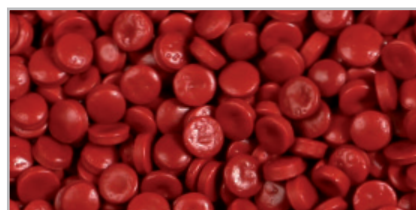
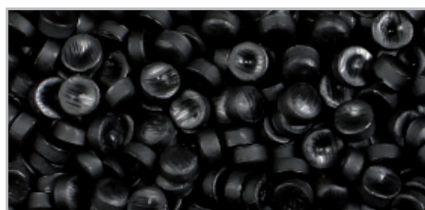
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The material that comes from the collection of post-consumer blow moulded products distinguish our blow-moulding product. These products have remarkable Elasticity and Melt Flow Index (0.25 - 0.65 / 2.16 kg 190°).

These features make them the perfect choice for the production of:

- The thin inner wall of electric cable protection corrugated pipe, from $\varnothing 40$ to $\varnothing 250$;
- The external and internal walls of large diameter corrugated pipes for sewage, from $\varnothing 250$ to $\varnothing 2000$.





PEBolen HDPE 6100



COMPOSITION:

HIGH DENSITY POLYETHYLENE

COLOR:

black, light grey, red, blue, dark grey

APPLICATION:

blow molding

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.25 - 0.65	ISO 1133
190°C - 5 kg	g/10 min	1 - 2.5	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.955 - 0.975	ISO 1183
MELTING POINT	°C	130 - 135	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 450	ISO 527-1:2012
TENSILE STRENGTH AT BREAK	Mpa	20 - 26	ISO 527-1:2012
O.I.T. 200°C	minutes	-----	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 6 %	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance. Not suitable for food contact.

All the information contained in this sheet is purely indicative; therefore, it is advisable to always contact the company for requests, particular uses and different and / or customized formulations.



PEBolen

HDPE 6100 C



COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black, light grey, red, blue, dark grey
APPLICATION: blow molding

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.25 - 0.65	ISO 1133
190°C - 5 kg	g/10 min	1 - 2.5	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.960 - 0.990	ISO 1183
MELTING POINT	°C	130 - 135	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 450	ISO 527-1:2012
TENSILE STRENGHT AT BREAK	Mpa	20 - 26	ISO 527-1:2012
O.I.T. 200°C	minutes	-----	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 6 %	DSC
ASH, METALS	traces in the formulations of the original products, CaCO ₃ added		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance. Added CaCO₃ to implement the mechanical characteristics of crush resistance.

Not suitable for food contact.

All the information contained in this sheet is purely indicative; therefore, it is advisable to always contact the company for requests, particular uses and different and / or customized formulations.





PEBOlen

HDPE 6100S

COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black
APPLICATION: blow molding

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.25 - 0.60	ISO 1133
190°C - 5 kg	g/10 min	1 - 2.2	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.945 - 0.965	ISO 1183
MELTING POINT	°C	129 - 132	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 450	ISO 527-1:2012
TENSILE STRENGTH AT BREAK	Mpa	20 - 24	ISO 527-1:2012
O.I.T. 200°C	minutes	-----	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 4 %	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance. Not suitable for food contact.
 LLDPE added to increase the elasticity of the material, particularly suitable for internal walls of double wall corrugated pipes.
 All the information contained in this sheet is purely indicative; therefore, it is advisable to always contact the company for requests, particular uses and different and / or customized formulations.





PEBolen

HDPE 6030

COMPOSITION: HIGH DENSITY POLYETHYLENE
COLOR: black
APPLICATION: blow molding

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.2 - 0.4	ISO 1133
190°C - 5 kg	g/10 min	0.85 - 1.5	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.948 - 0.960	ISO 1183
MELTING POINT	°C	130 - 135	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 450	ISO 527-1:2012
TENSILE STRENGHT AT BREAK	Mpa	19 - 24	ISO 527-1:2012
O.I.T. 200°C	minutes	-----	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 5 %	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1250 kg big bag, tank truck, 25 kg bags on pallet		

Product Notes:

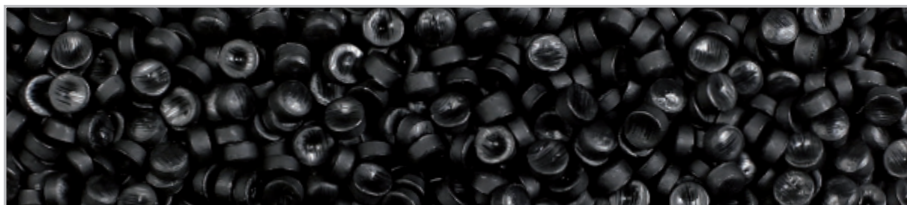
Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance. Not suitable for food contact.

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03

LDPE extrusion line

The LDPE version is widely used for the production of irrigation pipes. The two products are the result of years of research and experience. They are the response to the need for a product that does not mutate in time, even when exposed to extreme temperature changes.





PEBOlen

LDPE 1410

COMPOSITION: LOW DENSITY POLYETHYLENE
COLOR: black
APPLICATION: extrusion

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.25 - 0.65	ISO 1133
190°C - 5 kg	g/10 min	1 - 2.5	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.925 - 0.938	ISO 1183
MELTING POINT	°C	110 - 113	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 200	ISO 527-1:2012
TENSILE STRENGTH AT BREAK	Mpa	10 - 18	ISO 527-1:2012
O.I.T. 200°C	minutes	-----	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 4 %	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1200 kg big bag		

Product Notes:

Produced with post-industrial and post-consumer recycled materials, added with carbon black, which increases its UV resistance. Not suitable for food contact.

All the information contained in this sheet is purely indicative; therefore, it is advisable to always contact the company for requests, particular uses and different and / or customized formulations.





PEBOlen

LDPE 1410S

COMPOSITION: LOW DENSITY POLYETHYLENE
COLOR: black
APPLICATION: extrusion

PROPERTY	UNIT	VALUE	TEST METHOD
MELT FLOW RATE			
190°C - 2.16 kg	g/10 min	0.25 - 0.70	ISO 1133
190°C - 5 kg	g/10 min	1 - 2.8	IOS 1133
VOLUMETRIC MASS	g/cm ³	0.920 - 0.935	ISO 1183
MELTING POINT	°C	110 - 113	DSC
CARBON BLACK	%	2 - 2.5%	ISO 6964
TENSILE STRAIN AT BREAK	%	> 200	ISO 527-1:2012
TENSILE STRENGHT AT BREAK	Mpa	10 - 18	ISO 527-1:2012
O.I.T. 200°C	minutes	-----	ISO 11357-6
HUMIDITY	ppm	< 600	Karl Fischer
SMELL	typical regenerated materials smell more or less intense depending on the batch		
OTHER POLYMERS	%	PP < 4 %	DSC
ASH, METALS	slight traces in the formulations of the original products		
PACKAGING	approx 1200 kg big bag		

Product Notes:

Produced with post-industrial and post-consumer recycled materials, added with carbon black which increases its resistance to UV. LLDPE added to increase the elasticity of the material.

Not suitable for food contact.

All the information contained in this sheet is purely indicative; therefore, it is advisable to always contact the company for requests, particular uses and different and / or customized formulations.



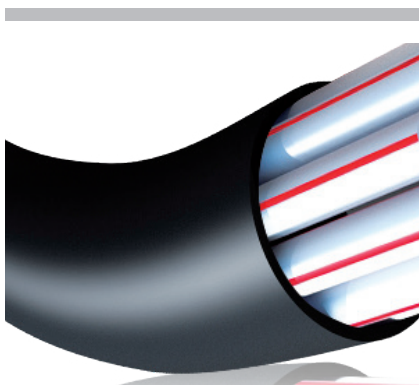
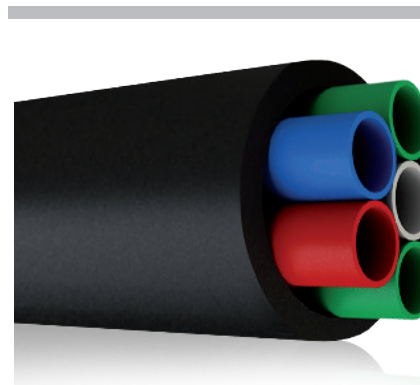
04

On demand

We have developed and produced compounds for special application such as:

- **STEEL PIPE COATING (HIGH AND LOW DENSITY)**
- **CABLE PIPE COATING (HIGH DENSITY)**

Once approved, the compound is standardized in conformity to the specifications defined with the customers (Density, MFI, Filtration Grade, Colour, Packaging...).







PEBO

plastic materials • since 1987



PEBO Spa

Legal HQ

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Operational HQ

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info@pebospa.com / www.pebospa.com



Material delivery options

Resin compound can be delivered in three options:

- 25 kg bags on 110 × 130 cm pallets
- 1000 -1200 kg Big Bags on 100 × 100 cm pallets
- 25,000 kg bulk

Lab analysis are carried out on resin compound prior to dispatch and quality certificates are supplied with shipping documents.



BULK



BIG BAGS



25KG BAG ON PALLET