

# INJECTION & EXTRUSION MOULDING







60 years of Know-how



80% export of our solutions



customers



Production capacity of 110,000 ton/year



Exports to more than 70 countries



25 production lines

#### CREATING SOLUTIONS, SHARING EXPERTISE

Within Injection & Extrusion Moulding Business Unit, Cabopol strategy is to provide a wide range of compounds that are available for many injectors and extruders worldwide. At Cabopol we strive to dig deeper daily on the development of new solutions according to our client needs, under the umbrella of each of our brands below.

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POI YAMIS

SØFIPRIMF

P@I YPRIME

FC-SOLUTIONS

TPE|TPU|TPO|TPV Compounds

PA6 & PA6.6 Compounds

PP & PE Compounds

PVCCompounds Biobased & Recycled Compounds

#### **ENDLESS COMBINATIONS**



FLEXIBLE



FLEXIBLE AT LOW TEMP UV RESISTANT





WEATHER RESISTANT



FREE OF PHTHALATES



IMPACT RESISTANT



LOW TEMP.



SCRATCH RESISTANT



FOOD CONTACT HIGH SPEED PROCESS.



LOW ODOUR



HALOGEN



LOW HALOGEN



HIGH TEMP





COLOUR VARIETY OIL RESISTANT



ABRASION RESISTANT



RECYCLABLE



MINERAL







LOW FOGGING

## INJECTION & EXTRUSION MOULDING **MARKETS**



Automotive



Industry



Consumergoods & Personal care



Medical

## LAC©FLEX TPE | TPE | TPO | TPV COMPOUNDS

LACOFLEX brand is the tradename of our Thermoplastic Elastomers compounds. CABOPOL offers a wide range of solutions that are present in our daily lives through a wide variety of applications within Automotive, Industry, Consumer Goods & Personal Care and Medical markets. LACOFLEX  $range\ of\ materials\ are\ developed\ according\ to\ each\ product\ requirements\ using\ our\ R\&D\ center\ in\ straight\ collaboration\ with\ our\ clients.$ 







ENCAPSULATION



SEALINGS & GASKETS



BED SPRINGS



ELASTIC BANDS

## STANDARD SOLUTIONS

| (S)<br>Code                                    | Base | Market                            | Processing<br>method | Specific<br>application           | Additional<br>Features                  |  |
|--|------|-----------------------------------|----------------------|-----------------------------------|---|--|
| BMI22-83<br>BMI34-70<br>BMI22M-60<br>BMI04-65S | TPE  | Automotive                        | Injection            | Mats                              | <u>₩</u> 916 <b>*</b> ⊕                 |  |
| BMA100-65UV                                    | TPE  | Automotive                        | Injection            | Glass encapsulation               | * * * * * * * * * * * * * * * * * * *   |  |
| CHS49-55                                       | TPE  | Automotive                        | Extrusion            | Wire guides                       | → B C HF                                |  |
| BMI23-60                                       | TPE  | Industry                          | Injection            | Cable entry plate                 | <u>*</u> .75 &                          |  |
| BMI23-78                                       | TPE  | Industry                          | Injection            | Electrical cap & industrial plugs | <u>*</u>                                |  |
| BML202-50                                      | TPE  | Industry                          | Injection            | Washing machine seal              | ~ ~ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |  |
| CHS100-50                                      | TPE  | Industry                          | Extrusion            | Gaskets                           | * ~ &                                   |  |
| CHS44-65                                       | TPE  | Industry                          | Extrusion            | Gasket & profiles                 |   |  |
| BMFH300-75                                     | TPE  | Industry                          | Injection            | Gasket & profiles                 |   |  |
| BMI200-50                                      | TPE  | Industry                          | Injection            | O-rings                           |   |  |
| BMR90-60                                       | TPE  | Consumer goods & personal care    | Injection            | Bondable to PP                    | <b>7</b>                                |  |
| TCR200-35                                      | TPE  | Consumer goods & personal care    | Injection            | Bondable to polar substract       | <b>万</b>                                |  |
| CHM02  | TPE  | Consumer goods & personal care    | Extrusion            | Elastic laminates                 | 5 - 8                                   |  |
| BML-77   | TPE  | Consumer goods<br>& personal care | Injection            | Bed springs                       | * * *                                   |  |
| BMR03-65                                       | TPE  | Consumer goods<br>& personal care | Injection            | Domestic utilities                | <u>*</u>                                |  |
| BMR05-65                                       | TPE  | Consumer goods<br>& personal care | Injection            | Shaker lids                       |   |  |









HIGH SPEED PROCESS.



ABRASION RESISTANT





UV RESISTANT



RECYCLABLE









HALOGEN FREE COLOUR VARIETY









FLEXIBLE AT LOW TEMP.







SOFT TOUCH



Sofiprime is the range of solutions designed under the base of filled PP and PE compounds. Among those solutions we highlight flame retardant grades for injection or extrusion moulding applications. These based polyolefin compounds were created for extrusion of rigid and corrugated tubes as well as for the injection of parts.







COOLING FAN



CONDUITS & ACCESSORIES



CORRUGATED TUBES



JUNCTION вох

#### STANDARD SOLUTIONS

| (S)<br>Code | Base    | Market     | Processing<br>method     | Specific<br>application         | Additional<br>Features |
|-------------|---------|------------|--------------------------|---------------------------------|------------------------|
| PPCO16T-VW1 | PP      | Automotive | Injection                | Interior trunk panel            | ₩ ☆ 🗟 🗱 💥              |
| PPCO17T     | PP      | Automotive | Injection                | Seat pieces                     |                        |
| HZ 1150CON  | PP & PE | Automotive | Injection &<br>Extrusion | Wire guides                     | & HF 1+ 65             |
| PP15HGF-02  | PP      | Automotive | Injection                | Under the hood pieces           | GF W 1                 |
| HZ 1250CON  | PP & PE | Industry   | Injection &<br>Extrusion | Conduits and accessories        | & LH 1+ 65 &           |
| PEFR40LH    | PE      | Industry   | Extrusion                | Corrugated tubes                | & LH \$ # MF           |
| PP30T/7035  | PP      | Industry   | Injection                | Junction box                    | MF W &                 |
| PPO40T      | PP      | Industry   | Injection                | Trash bins                      | Mf  😸                  |
| PP15CGF-01  | PP      | Industry   | Injection                | Electrical moulding details     | GF & ®                 |
| PP30HGF     | PP      | Industry   | Injection                | Irrigation moulding details     | GF & ®                 |
| PPF30HGF    | PP      | Industry   | Injection                | Refrigerator trays              | GF R                   |
| PPF20HGF    | PP      | Industry   | Injection                | Outer cases of small appliances | GF R                   |
| PPI30GF     | PP      | Industry   | Injection                | Home appliances                 | GF W                   |
| PP30CGF-02  | PP      | Industry   | Injection                | Aesthetical parts               | GF                     |





























GLASS FIBER MECHANICAL REINFORCEMENT PROPERTIES



Polyamis compounds are PA6,6 and PA6 polyamide compounds reinforced with glass fibbers and/or mineral filers. Polyamides are within the most important engineering polymers due to it's exceptional mechanical properties such as higher strength, rigidity, creep strength, dimensional stability and thermal endurance from -40°C to 180°C and above, making theses Polyamis compounds an excellent choice for a wide range of applications.







ENGINE COVER



HOUSING BOX



KITCHEN ARTICLES



WHEELS

#### STANDARD SOLUTIONS

| ©)<br>Code | Base | Market                            | Processing<br>method | Filler/<br>Reinforcement<br>content % | Specific<br>application                | Additional<br>Features |
|------------|------|-----------------------------------|----------------------|---------------------------------------|--|------------------------|
| BM15-01    | PA6  | Automotive                        | Injection            | 15%                                   | Back injection of emblems              | GF W                   |
| A33T-01    | PA66 | Automotive                        | Injection            | 33%                                   | Housings & connectors                  | GF 1                   |
| BZ30-01    | PA6  | Industry                          | Injection            | 30%                                   | Housing box                            | GF 6                   |
| B30-01     | PA6  | Industry                          | Injection            | 30%                                   | Housing box                            | GF                     |
| A30F-01    | PA66 | Industry                          | Injection            | 30%                                   | Technical water heater parts           | GF R                   |
| A20F-01    | PA66 | Industry                          | Injection            | 20%                                   | Kitchenware                            | GF R                   |
| B30-01     | PA6  | Industry                          | Injection            | 30%                                   | Clamps, reinforced articles and wheels | G <sub>F</sub>         |
| B50-01     | PA6  | Industry                          | Injection            | 50%                                   | Shopping cart handle                   | G <sub>F</sub>         |
| A15F01     | PA66 | Consumer goods<br>& personal care | Injection            | 15%                                   | Wheels                                 | GF R 💝 😓 🕒             |
| AM30-01    | PA66 | Consumer goods<br>& personal care | Injection            | 30%                                   | Parts of ski boots                     | GF W 😂                 |
| A20-01     | PA66 | Industry                          | Injection            | 20%                                   | Tools casings                          | GF 6                   |
| AZ20-01    | PA66 | Industry                          | Injection            | 20%                                   | Electrical protection                  | GF 6                   |
| BM30-01    | PA6  | Automotive                        | Injection            | 30%                                   | Pedal box                              | G <sub>F</sub> W       |
| AZ15T-01   | PA66 | Industry                          | Injection            | 15%                                   | Oven components                        | GF 1                   |











FOOD CONTACT



MECHANICAL PROPERTIES



COLOUR



FREE OF PHTHALATES



HIGH SPEE

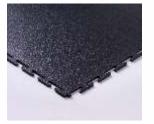


Polyprime are PVC compounds free of DEHP and BPA, for various applications. PVC is used in combination with various additives such as plasticizers, lubricants, stabilizers, etc. These additives make it possible to use PVC and make it versatile for many applications. They give it elasticity, stability at high temperatures and reinforce its chemical resistance.











PIPES FITTINGS CABLE TRUNKINGS

FLOOR TILES MEDICAL TUBES & MASKS

## STANDARDS SOLUTIONS

| ©)<br>Code     | Base | Market                         | Processing<br>method | Specific<br>application                  | Additional<br>Features |
|----------------|------|--------------------------------|----------------------|--|------------------------|
| PPAA016        | PVC  | Automotive                     | Extrusion            | Tubes, spiral coverings<br>& wire guides | * &                    |
| PRE180/H518/00 | PVC  | Industry                       | Extrusion            | Cable trunkings                          | <b>₩ %</b>             |
| PPN007860      | PVC  | Industry                       | Extrusion            | Gaskets                                  | ★ 只                    |
| PPN083-60      | PVC  | Industry                       | Extrusion            | Gasket, profiles & pipes                 |                        |
| PPTG002-80     | PVC  | Industry                       | Extrusion            | Gas hose                                 |                        |
| PPI011-95      | PVC  | Industry                       | Injection            | Floor tiles                              | <b>⊕</b> 5.55          |
| TOP-90A        | PVC  | Industry                       | Extrusion            | Roof tiles                               | ₩ £ ÷                  |
| PPI029-74A     | PVC  | Consumer goods & personal care | Injection            | Wheels                                   |                        |
| PPTM001        | PVC  | Medical                        | Extrusion            | Medical tube                             |                        |
| PPTM002        | PVC  | Medical                        | Extrusion            | Medical tube                             |                        |
| PPTM001-80M1   | PVC  | Medical                        | Extrusion            | Medical tube (memory)                    |                        |
| PPTM005        | PVC  | Medical                        | Extrusion            | Injection moulding                       |                        |
| PRI040/00      | PVC  | Industry                       | Injection            | Fittings                                 |                        |
| PPB001-95      | PVC  | Industry                       | Injection            | Toys                                     |                        |
| PRE06G-00      | PVC  | Industry                       | Extrusion            | Furniture edges                          |                        |
| PPIE001-90     | PVC  | Industry                       | Injection            | Ladders base                             | ₩ -*                   |

















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The plastics industry has undergone major changes in recent years, mainly due to the growing awareness of consumers who are increasingly looking for sustainable and environmentally friendly solutions. This trend has encouraged the development of innovative materials, leading to a circular conception of the economy, as an alternative to the traditional linear economy.

Cabopol has at its disposal a set of sustainable solutions, which promote the development of the planet and the preservation of its environment. At Cabopol, offering environmentally friendly compounds has been defined as The new standard.



Recycled Compounds



Biobased Compounds

## A MUCH NEEDED SOLUTION

Cabopol, have always been committed to offer sustainable solutions aligned with a circular economy model. To prove it, jump back in time approximately 10 years ago, when Cabopol launched Biomind, its very own brand of Biodegradable and Compostable compounds. At the time, it was the first company in the Iberian Peninsula that were able to provide this type of solutions. Fast-forward to today and the commitment is strong as ever.

Cabopol not only kept offering Biodegradable and compostable compounds, but it added 2 more branches of sustainable solutions. Compounds made with a percentage of recycled material (PIR & PCR) and biobased compounds.



## RECYCLED COMPOUNDS

R-Lacoflex is the Cabopol brand of thermoplastic compounds that contains a percentage of recycled material, the source of which may be PCR (post-consumer recycled) and / or PIR (post-industrial recycled). Our recycled based compounds have the same properties as an ordinary plastic but stands out for using a percentage of recycled resources as raw materials.

R-Lacoflex & R-Polyprime gives a second life to plastic materials whose destination would be landfills or our oceans. Cabopol is actively working with its partners to develop solutions using recycled plastic from our oceans, actively contributing to the reduction of pollution levels.



## CALCULATION OF THE RECYCLED CONTENT

There is still no standard or technology to make a qualitative determination of the amount of recycled material, so we are looking to work with partners that comply with ISO 14021: 2016 and ISO 15343 standards. The product's coefficient or percentage of recycled content is calculated: Mass of PIR & PCR, divided by the Total mass of the product, multiplied by 100. These materials are supplied by certified companies in the treatment of waste. Cabopol is actively working with its partners to develop solutions using recycled plastic from our oceans.



# LAC©FLEX SUSTAINABILITY WITHOUT COMPROMISING PERFORMANCE

| Code       | Renewable<br>source | Material | Hardness<br>sH A 15′′ | Density<br>(g/cm3) | Tensile<br>strength<br>MPa | Elongation<br>at break % | Tear<br>strength<br>N/mm | Additional<br>Features |
|------------|---------------------|----------|-----------------------|--------------------|----------------------------|--------------------------|--------------------------|------------------------|
| R-Lacoflex | 10%                 | TPE      | 50 - 90               | 0,92 to 1,2        | >4                         | >400                     | >20                      | 23                     |
| R-Lacoflex | 25%                 | TPE      | 50 - 90               | 0,92 to 1,2        | >4                         | >400                     | >20                      | 23                     |
| R-Lacoflex | 30%                 | TPE      | 50 - 90               | 0,92 to 1,2        | >4                         | >400                     | >20                      | 23                     |
| R-Lacoflex | 50%                 | TPE      | 50 - 90               | 0,92 to 1,2        | >4                         | >400                     | >20                      | 23                     |



## CERTIFIABLE QUALITY

At Cabopol laboratories, compounds are meticulously tested from development to production. To do this, Cabopol relies on the complete dedication of a vast team of technicians, who find solutions that exceed customers' expectations every day. Maintaining high levels of quality.

Adding to this, the raw Recycled material is supplied by Certified organizations, which guarantees complying compounds.

All compounds are RoHS, REACH and SVHC compliant, if requested.



## BIOBASED COMPOUNDS

Bio-Lacoflex is the Cabopol brand of biobased thermoplastic compounds. Our bioplastics have the same properties as an ordinary plastic but stands out for using renewable sources as raw materials, such as: Soy residues, rice starch, corn or sugar cane.

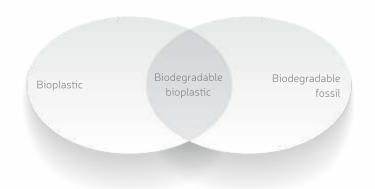
Also, these compounds are 100% recyclable, thus contributing to the sustainability of the planet.



## WHAT IS A BIOPLASTIC?

A biopolymer or bioplastic, is a polymer that has the same properties as ordinary plastic, but stands out for using as a raw material, renewable sources such as soy residues, rice starch, corn and sugar cane. But we must not confuse a bioplastic with biodegradable plastic. These are two different characteristics, its a mistake to think that a bioplastic is always biodegradable. It is also not correct to think that a biodegradable material must be of organic origin, because there are biodegradable plastics of fossil origin.

Cabopol with its Bio-Lacoflex line has created a material that has in its constitution polymers from renewable sources, thus contributing to the sustainability of the planet.



## CIRCULAR ECONOMY SOLUTIONS

Cabopol works actively in the development of compounds that incorporate natural origin raw materials and substitute the fossil feedstock by renewable feedstock, in order to increase the percentage of renewable carbon content and decrease the consumption of fossil feedstock. With this solutions, its possible to maintain the characteristics of a standard PVC and TPE based compound, that can be used by itself or mixed with compounds of fossil origin.



# LAC©FLEX SUSTAINABILITY WITHOUT COMPROMISING PERFORMANCE

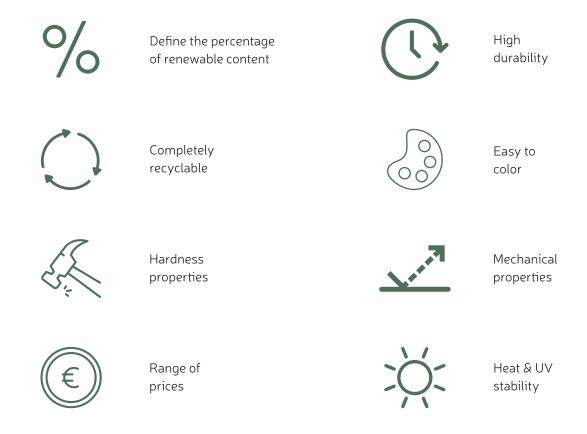
| © Code       | Renewable<br>source | Material | Hardness<br>sH A 15′′ | Density<br>(g/cm3) | Tensile<br>strength<br>MPa | Elongation<br>at break % | Tear<br>strength<br>N/mm | Additional<br>Features |
|--------------|---------------------|----------|-----------------------|--------------------|----------------------------|--------------------------|--------------------------|------------------------|
| Bio-Lacoflex | 10%                 | TPE      | 50 - 90               | 0,92 to 1,0        | >4                         | >400                     | >20                      | 23                     |
| Bio-Lacoflex | 18%                 | TPE      | 50 - 90               | 0,92 to 1,0        | >4                         | >400                     | >20                      | 23                     |
| Bio-Lacoflex | 30%                 | TPE      | 70 - 90               | 0,97               | >4                         | >400                     | >20                      | 23                     |
| Bio-Lacoflex | 45%                 | TPE      | 70 - 90               | 0,97               | >4                         | >400                     | >20                      | 23                     |



## OUTSTANDING BENEFITS

- · Keep the characteristics of a fossil origin compound
- · Contributes to reduce the consume of fossil feedstock
- · Promotes the use of renewable feedstock
- Contributes to the reduction of the carbon footprint without competing with the food chain
- Individual adjustments of properties
- Fully recyclable
- Customizable features
- · Processable on standard production equipment
- · Several percentages of renewable raw material





## RENEWABLE RESOURCES

In 2019 the land used to grow the materials necessary for the production of bioplastics amounted 0.79 million hectares, which represents less than 0.02% of the global agricultural area of 4.8 billion hectares. Even considering the market growth expected in the next five years, the land percentage for bioplastics will remain around 0.02 percent. Clearly showing that the materials used for the bioplastics, won't compete in the incoming years with the renewable feedstock for pasture, food and feed.

\*Bioplastics land use is part of the 2% of Material use Source: European Bioplastics (2019), FAO stats (2017), nova-Institute (2019) & Institute for Bioplastics and Biocomposites (2019).

