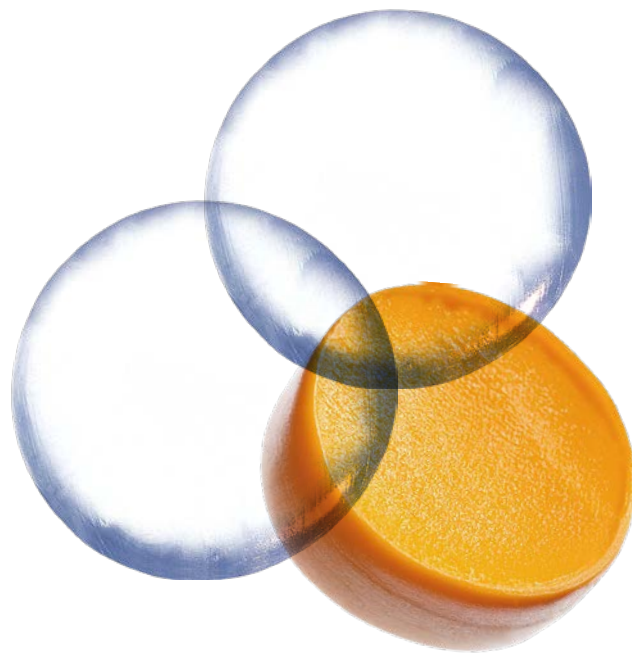


The Art of Plastics





POLYMER-GROUP 04 – 05

POLYMER-CHEMIE 06 – 07

TECHNOCOMPOUND 08 – 09

SOBICO 10 – 11

POLYMIM 12 – 13

SUN ALLOYS EUROPE 14 – 15



The Art of Plastics Engineering

FACTS AND FIGURES POLYMER-GROUP

- Founded in 1973
- 180,000 tons annual compounding capacity
- 500 employees
- 9 legal entities in the Group



What makes plastics so special is their flexibility. Plastics can adapt to virtually any requirements. This is also, what characterises our privately owned and independent company.

Customers in Germany and abroad value Polymer-Group for its competence and reliability in plastics compounding. One of our strengths is our ability to develop tailored compounding solutions in close collaboration with our customers. For the efficient implementation of these customised solutions, we employ state-of-the-art production technology and a sophisticated quality management system.

Our qualified staff, who prides itself in its comprehensive technical plastics expertise, is the guarantor of our outstanding service and optimal technology support. To remain on top of the game, a cornerstone of our company philosophy is the continuous training of our qualified and proactive employees, who appreciate working in an environment that offers them long-term stability.

With about 500 employees at its headquarters in Bad Sobernheim, centrally located in Germany's Rhein-Main Area, we are a medium-size, privately owned company. Polymer-Group is one of the largest local employers, and one of the leading compounding companies in Germany.

Certified Quality Management Systems for Consistent Quality

Quality at Polymer-Group is ensured by sophisticated quality management systems and by the high quality awareness of our staff.

Our certifications – according to ISO 9001 and according to IATF 16949 – demonstrate that we put a key value on exacting quality standards. Because quality does not stop here, Polymer-Group also has energy and environmental management systems in place.



Formulated to Fit

FACTS AND FIGURES POLYMER-CHEMIE

- Founded in 1973
- 70,000 tons annual production capacity
- 100 employees
- Leading independent PVC compounder in Germany
- Wide spectrum of PVC compounds
- High production flexibility
- 15 production lines



POLYMER-CHEMIE – Since 1973 Polymer-Chemie has been producing PVC compounds. Today the product line SorVyl® consists of plasticised PVC as well as rigid PVC compounds, supplied as pellets or dryblends.

Polymer-Chemie masters the art of transforming a standard PVC resin into a compound that is tailored to the customer's requirements.

Customised Formulations and Application Engineering

Every PVC compound we produce is a customised formulation developed by our application engineers. Customers benefit from our many years of experience in the development of customised formulations and colour matching for all processing methods. Our compounds meet the requirements of the individual application, and they create optimal processing conditions. Customers in the construction, automotive and electrical industry can rely on our flexibility and speed in the clarification of technical requirements as well as in sampling, production and delivery. Polymer-Chemie also offers on-site support and consulting, whether it is for the start-up of new compounds, or for the technical optimisation of existing production processes.

Flexible Production Facilities and Logistics

With 15 production lines for PVC compounding and a capacity of 70,000 annual tons, Polymer-Chemie is one of the largest PVC compounders in Europe. The wide range of compounding lines – from small-capacity throughput of 25 kg/h to large-scale extruders with a throughput of 3,500 kg/h – gives us great flexibility. State-of-the-art production equipment and centralised monitoring systems document all production parameters and guarantee consistently superior quality.





Polymer-Chemie also offers utmost flexibility in logistics. Bulk delivery or packaging in bags, big bags and octabins are available as standard options. Our 150 silos and 25,000 m² of warehouse space in the Polymer-Group ensure optimal logistics and guarantee our customers reliable delivery.

“Our compounds are the result of extensive research and application engineering, superior production processes, and sophisticated quality management.”

Applications of our PVC Compounds

Rigid PVC / Dryblends

Window profiles	Shutter bars
Records	In-wall profiles
Decking	Gutters

Plasticised PVC

Seals	Tubes
Cables	Foils
Conveyor belts	Swing doors





Multifaceted portfolio



*"Refinement and modification
open up almost unlimited applications
for polymers."*



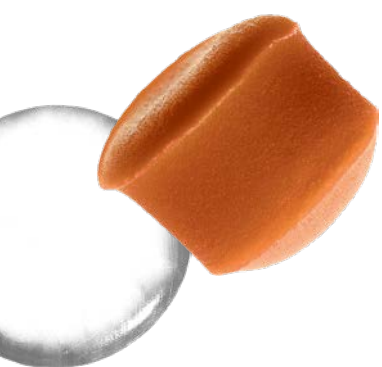
TECHNOCOMPOUND – Founded in 1990, the company is a leading supplier of tailored engineering plastic compounds. At its Bad Sobernheim site, TechnoCompound has state-of-the-art production facilities where polymers are being modified and refined to individual customer specifications.

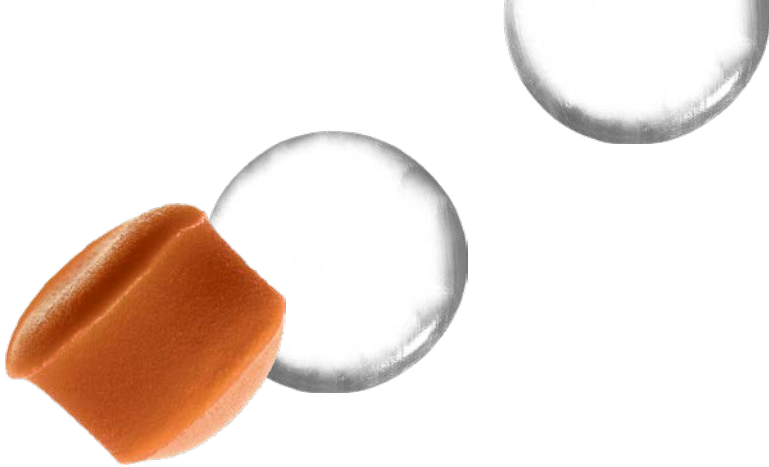
Development, production and service at TechnoCompound are fully geared towards the specific needs of customers in the plastic processing industry. For this reason, TechnoCompound successfully supplies a wide range of standard compound types as well as compounds with customised specifications. Our qualified application engineers are available for on-site support, and help our customers optimise their production processes.

Customers Benefit from Innovative Developments

TechnoCompound supplies plastic processors with high-quality compounds for all common processing methods. With 90 employees, the most modern production facilities, and an annual production capacity of 60,000 tons, TechnoCompound is one of the major independent producers of engineering compounds in Europe. The company enjoys an excellent reputation for its speedy and economical implementation of customised solutions.

The product portfolio of TechnoCompound includes polypropylene-based compounds and numerous engineering plastic compounds. TechnoCompound especially focuses on the production and marketing of compounds reinforced with short or long glass fibres. Carbon fibre reinforced compound types recently amended the portfolio.





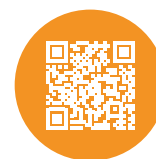
TechnoCompound

Creativity & Innovation in Plastics



**FACTS AND FIGURES
TECHNOCOMPOUND**

- *Founded in 1990*
- *60,000 tons annual production capacity*
- *90 employees*
- *Products:*
 - *Polypropylene compounds*
 - *Long glass fibre reinforced compounds*
 - *Engineering plastic compounds*
- *Facilities:*
 - *7 production lines*



Comprehensive Product Range

TechnoFin	PP compounds for a wide range of applications due to their good technical properties and excellent value for money
TechnoFiber	Long glass fiber-reinforced PP compounds for greater stresses, such as impacts and use in higher or lower temperature ranges
TechnoDur	PBT compounds for very good heat deformation resistance and excellent insulation properties
TechnoPet	PET compounds with excellent dimension retention features and good electrical insulation properties
TechnoMid	PA compounds with outstanding mechanical properties, high continuous use temperatures, and low tendency to creep
TechnoElast	TPE compounds with versatile characteristics such as hard and soft combinations and good compression deformation properties
TechnoForce	Carbon fiber-reinforced compounds with outstanding mechanical properties





Solutions in BioCompounds

SoBiCo GmbH was founded in 2020 with the focus of developing, manufacturing, and marketing new PLA-Copolymers. As a subsidiary of the Polymer-Group, SoBiCo benefits from the long-term experience of its parent company in the plastic compounding field and combines this skill with the latest findings in the biomaterials field.



Reactive Compounding

SoBiCo has managed to manufacture a PLA-Copolymer by means of a highly innovative production process involving reactive compounding. This method combines the otherwise separate processes of polymerization and compounding in a single production process. The German Federal Ministry supported the development and completion of the first production line for PLA-Copolymers for the Environment as part of its environmental innovation scheme.

The Plactid® bioplastic developed and produced by SoBiCo is manufactured using sugar cane or corn crops as a source of raw materials. The lactic acid extracted from components of the plants is converted into a bioplastic in the process developed by SoBiCo, suitable for universal use.

Main features of Plactid® bioplastics

- Lactide as the main component of the Copolymer
- Bio-based (80–95% made from renewable raw materials)
- No plasticizer
- Long-term stabilized
- Biodegradability optional
- Recyclable (mechanically and chemically)
- Easy to use in traditional production processes



Plactid® – innovative bioplastics made of renewable raw materials

The Plactid® PLA-Copolymer is a completely new class of material with unique properties in the world of bioplastics. Compared to conventional PLA-Polymers, Plactid® has long-term flexible material properties and meets the requirements for bioplastics in terms of its biogenetic origin and biodegradability..

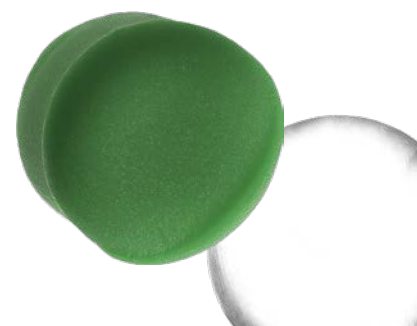
Plactid® covers a wide range of properties. From tough, fast-crystallizing injection molding types to flexible foil extrusion types with a high elongation-at-break value. The wide range of possible applications includes food packaging (e.g. foils and trays), injection molding applications, fibers, 3D-printing, and also high strength components for the automotive industry.

Universally applicability

Film extrusion	Panel extrusion	Injection molding
Extrusion blow molding	Profile extrusion	Thermoforming
Calendering	Additive manufacturing	Foam manufacturing




“The Environmental Innovation Program focuses on projects that show how innovative technologies can be used to reduce and prevent environmental damage.”






Precise and Solid



***POLYMIM** was founded in 2005 and supplies raw materials for Metal Injection Molding. Metal Injection Molding, or MIM, is a modern process for the production of sintered metallic parts. This makes it possible to produce metallic components with complex geometric designs with great precision. This is done economically and with no reworking required.*



Metal-plastic compounds with a high content of metal powder are used in the metal injection molding process. These compounds, generally known as feedstock, can be processed in the same way as with conventional injection molding using the familiar geometric degrees of freedom of modern injection molding tools. And this is exactly where this process demonstrates its superiority for the production of metal components compared to other, conventional sintering processes. From simple undercuts with a thread to two-component injection molding, MIM delivers some extraordinary opportunities for the production of metal parts in large quantities.

The injection-molded components, also known as green bodies, are then separated from the main component of the binder in another process known as debinding. This results in a porous component known as a brown body.

The brown bodies are sintered in a wide range of gas atmospheres to produce a solid, fully metallic component in the sintering process. The sintering process typically takes place at around 85–90% of the melting temperature of the alloy. This enables material densities of up to 99% to be achieved, significantly higher than the densities produced by conventional sintering techniques.

The result of the sintering is a metal component whose mechanical properties comply with the relevant DIN standards.

polyMIM® and polyPOM: No questions left unanswered

PolyMIM can provide its customers with two different binder systems: the environmental, water-soluble polyMIM® system and the polyPOM catalytic binder system. Both versions deliver customized possible solutions for a wide range of applications. polyMIM® and polyPOM combine good processability and high strength of the injection-molded parts (green bodies). They feature short debinding times, high dimensional accuracy, and good reproducibility.

But, the company also offers a great deal more. PolyMIM supports its customers in the development of parameters for the entire metal injection molding processing chain – from injection molding and debinding to sintering – both for standard materials and for bespoke compounds.

The following industries are typical users of metal powder compounds:

- Electronics
- Automotive industry
- Medical technology
- Aviation and aerospace
- Precision mechanics (glasses, watches and jewelry)

Metal 3D-printing

Both product groups (polyMIM® and polyPOM) can be used in metal 3D-printing. This supplementary technology to the MIM process enables both prototypes and very small production runs to be manufactured in the required alloys in a very short time. The printed components can be finished reliably as normal in the subsequent debinding and sintering processes.

Range of types in metal injection molding

Low-alloy steel	Stainless steel	Tool steel
Soft magnetic steel	Titanium alloys	Copper alloys
Tungsten carbides	Heavy metal alloys	Special alloys

FACTS AND FIGURES POLYMIM

- *Founded in 2005*
- *Production capacity of 1000 metric tons/annum*
- *Wide range of material and alloy types*
- *Continuous production process using extrusion*
- *Fully equipped technical center for the injection molding, debinding, and sintering processes, including the chemical analysis of sintered components.*





Joined Forces

SUN ALLOYS EUROPE – Founded in 2005, the joint venture with Mitsui Chemicals focuses on the production of polyolefin-based functional polymers.

Sun Alloys Europe compounds PE/PP-Compounds and TPE-Compounds, developed by Mitsui Chemicals Inc., exclusively for Mitsui Chemicals Europe. Both compounds are primarily used in the automotive and packaging industry.

These compounds, which meet the most demanding quality requirements and are partly manufactured by reactive extrusion, are produced at our state-of-the-art compounding lines in Bad Sobernheim, Germany.

Refined Surfaces

TPE-Compounds, are thermoplastic, polyolefin-based elastomer (TPE-V), that are used primarily in the automotive industry, particularly as a surface finishing for plastic components, and for the manufacture of elastomeric components. TPE-Compounds combine the favourable properties of elastomers with the good processing properties of thermoplastics. They have excellent thermal stability and is resistant to chemicals and weather. Unlike conventional elastomers, TPE-Compounds are recyclable.



Facts and Figures SUN ALLOYS EUROPE

- Founded in 2005 as a joint venture with Mitsui Chemicals
 - 50,000 tons annual production capacity
 - 60 employees
 - Products: Functional polymers
 - Facility with 6 twin-screw extruder compounding lines





Fresh Ideas for Fresh Food

PE/PP-Compounds are an adhesive based on a grafted polyolefin-copolymer. They are amongst others used in the production of transparent composite films for food packaging. In order to ensure that the packaged food remains fresh as long as possible, these films are a composite of several layers, usually a combination of a nonpolar polyolefin and a polar polymer that acts as an oxygen barrier. PE/PP-Compounds serve as an adhesive layer between the polyolefin and the barrier, such as EVOH. PE/PP-Compounds make it possible to manufacture multi-layer films with outstanding composite properties.



Am Gefach
D-55566 Bad Sobernheim, Germany
Tel. +49 6751 84-0



www.polymer-gruppe.de
www.polymer-chemie.de
www.technocompound.com
www.sobico.de
www.polymim.com
www.sa-e.de