The magazin of **TER plastics Polymer Group**

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TER NEWS

Close the loop.
Together.

Better than Prime.
The new **TEREZ polyamide 6 GF ECO** compound series.

TER plastics

04-07

ABOUT US

TER Plastics
Better than Prime!
The new TEREZ polyamide 6 GF ECO compound series

TEREZ CLA Compounds
Closed-Loop-Automotive Grades

PROLOG

Dr. Wolf J. Köhler
COO
TER Plastics POLYMER GROUP

Dear reader,

it's K-fair time, and this is always a very special event in the life of everyone in the plastics industry. As in every K-year, we have been anxious to get prepared for the show on time, with the right team, with attractive products and innovative ideas. As at every K-show, we are excited to meet customers, suppliers, competitors and friends.
Despite this, the circumstances of the 2025 K-show are truly concerning: Long-established trade rules are easily violated even by global friends, peace in Europe is seriously threatened, and the industrial base on the European Chemical industry and beyond is challenged.
TER Plastics may not be able to change these adverse circumstances, but it is well capable and committed to contributing positively to other important topics, such as the ongoing environmental challenges. The problems with climate warming and plastic waste persist even when today's political rulers in powerful countries will be no longer in charge. As a plastics expert with outstanding know-how in our team, we continue to focus on developing solutions for the recycling of plastics and on bringing recylcates into demanding applications in industry - our main topics for the K-show 2025.
This TER news - the first one with our new corporate logo!- provides for a broad and interesting review of such developments and innovations by our suppliers, by our customers and by TER Plastics.

Enjoy reading it!

Better than Prime!

The new TEREZ polyamide 6 GF ECO compound series

Recycling-based polymer compounds have long been developed and used to reduce the material costs for plastics converters. TER Plastics and its compounding subsidiary TEREZ Performance Polymers were among the pioneers of polymer recycling almost 50 years ago.

Growing demand for recylcing grades
However, in recent years, recycling-based compounds have been the focus of material science engineers for other reasons: Most importantly, they significantly lower the carbon footprint, and advance sustainability in the plastics industry. Also, the smart return of plastic waste to the material cycle avoids its disposal in landfills or incineration plants.

Finally, stricter legal requirements, for example in the automotive industry, and a more widespread environmental awareness of customers, have been key drivers for the increased demand for sustainable material alternatives.

While polymer recyclates have entered almost every industry branch, the challenges for their usage are especially demanding for applications in the automotive and electrical industries, where high mechanical requirements are placed on the materials.

For automotive parts, often polyamide compounds are the material of choice due to their excellent price-performance ratio.

Therefore, the demand for compounds based on recycled polyamide is growing well beyond the sluggish market growth.

Plastics to be used in new vehicles according to the proposal of an ELV regulation

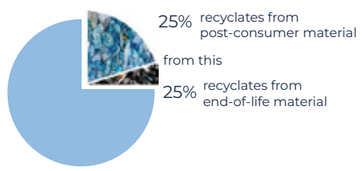

Fig. 2: ELV regulation by 2030

Traditional recycling technology is well developed
In the past, it has been generally accepted by the polymer industry that the technical performance of recycling-based compounds is somewhat below that of prime compounds.

The traditional recycling technology has been based on established compound formulations with a straight replacement of prime raw materials by eco-friendly recycling raw materials.

Good examples for this category are the two TEREZ grades TEREZ B 405 H G30 Black 9992 (50% post-industrial recycled polymer) and TEREZ B 503 H G30 Black 9992 (30% post-consumer recycled polymer).

The two grades show a good performance which is adequate for many industrial applications. This is the reason why these two grades are widely used across industry.

The property challenge
However, when two VW-requirements for interior and exterior (VW50125 PA6 H GF30 PA6-7 Interior and VW50134 PA6 H GF30 PA6-7-A Exterior) are considered as the benchmark, the two traditional recycling grades above do not satisfy all requirements safely. The mechanical properties are just at or even slightly below the VW-requirements.
In particular, the tensile stress at break in the conditioned state does not meet the minimum requirement of > 90 MPa.

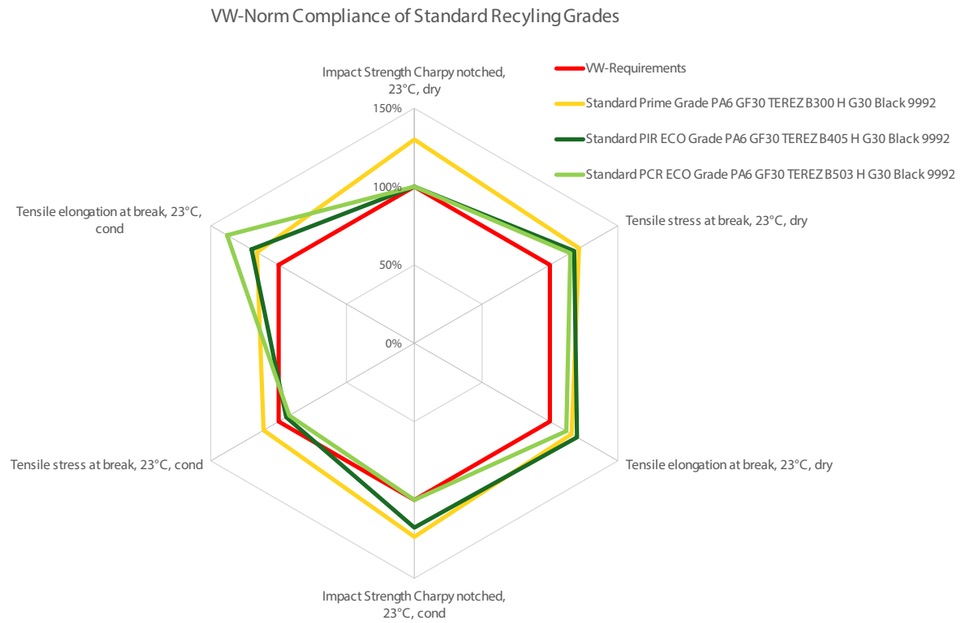

Fig. 3: Comparison of traditional recycling grades to the prime standard and to VW norms

Property	VW-Minimum-Requirements*	Unit	Norm
Impact Strength Charpy notched, 23°C, dry	10	kJ/m²	ISO 179
Tensile stress at break, 23°C, dry	140	MPa	ISO 527
Tensile elongation at break, 23°C, dry	2,5	%	ISO 527
Impact Strength Charpy notched, 23°C, cond	17	kJ/m²	ISO 179
Tensile stress at break, 23°C, cond	90	MPa	ISO 527
Tensile elongation at break, 23°C, cond	5,0	%	ISO 527

* *VW50125 PA6 H GF30 PA6-7 Interior*
* *VW50134 PA6 H GF30 PA6-7-A Exterior*

Fig. 4: VW requirements interior and exterior

Mechanical performance
To fully meet the requirements of the automotive industry while using recycled raw materials, TER Plastics has developed a new product line "Better than Prime“, which meets these VW requirements at 100%:

TEREZ B 405 H30 G30 Black 9992 is based on 50% post-industrial recycled polymer (PIR) and TEREZ B 503 H30 G30 Black 9992 is based on 30% post-consumer recycled polymer (PCR).

With this novel formulation improvement, the VW-requirements for the notched impact strength of > 10 kJ/m2 and for the tensile stress at break (cond.) of > 90 MPa can safely be met. Even more, the overall performance of the two new grades is better than prime!

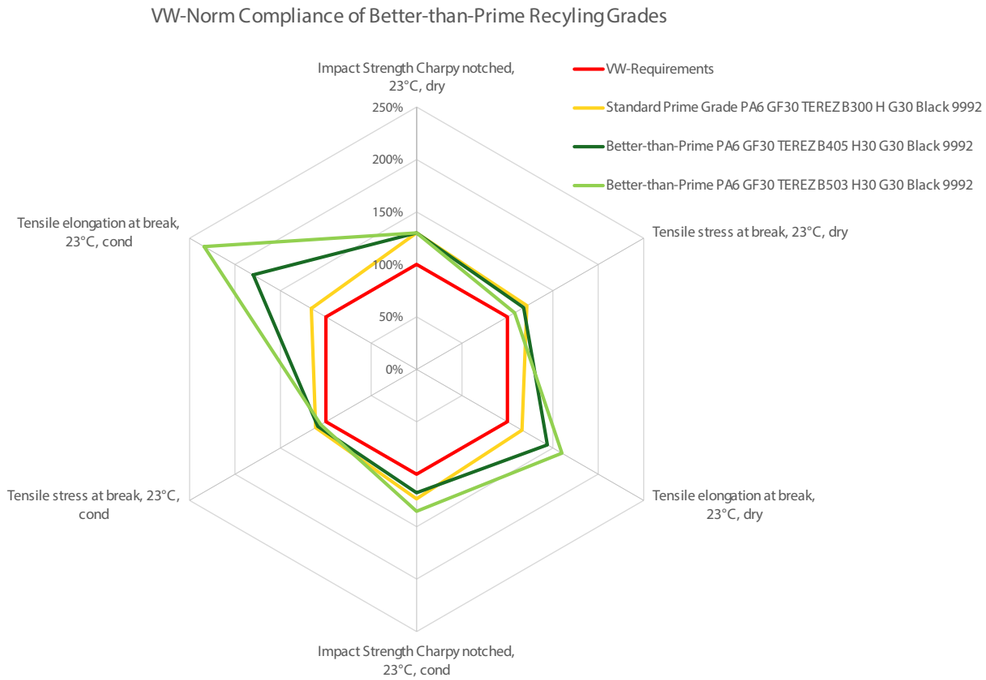

Fig. 5: The new TEREZ ECO grades “Better-than-Prime”

Weathering performance
The new development not only excels in the mechanical values. As shown for TEREZ B405 H30 G30 Black 9992 below, the results of the weathering tests are well according to interior and exterior standards.
As presented in figures 6 and 7 the new „Better than Prime“ grades pass the Grey scale test and the requirements regarding color deviation ΔL, Δa, Δb of Volkswagen.

	Cycle	0	1	2	3	4	5
	VW-requirement						
Surface Polished	≥ 4	5	5	5	5	5	5
Surface VDA 35	≥ 4	5	5	5	5	5	5

Fig. 6: Weather resistance according to PV 1303 – Grey scale

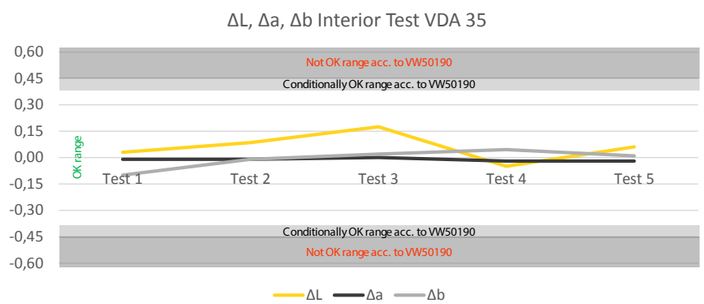

Fig. 7: PV 1303 evaluation by VW50190 color deviation of „Better than Prime“

Long-Term Performance
Another part of the VW 50134 requirements is the long-term heat requirement at 150 °C/1000 h. As shown in fig. 8 below, the new TEREZ grades show no significant performance differences between prime, PIR and even PCR based compounds.

Highest Standards: Better-than-Prime
In conclusion, it can be said that the new "Better than Prime" TEREZ series of TER Plastics meets the highest standards. These examples demonstrate that TER Plastics offers products equivalent to prime grades by using post-industrial (PIR) or post-consumer (PCR) raw materials. The new “Better-than-Prime” TEREZ series is available in various grades for different requirements, such as

- Natural and various colors
- Glass fiber content from 15 to 50%
- For laser welding applications: Laser transparency and laser absorption
- Tracking resistance settings CTI 600 V
- Highly impact-modified „Better than Prime“ compounds
- Improved long-term heat stabilizations for higher temperature requirements.

This shows that the most demanding applications in automotive can be well solved by using TEREZ compounds – either recycled or prime.

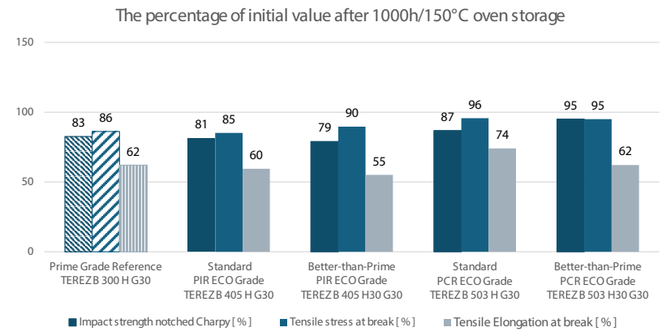

Fig. 8: Comparison of long-term performance acc. to VW 50134 for various recycling grades and prime

TEREZ CLA Compounds

Closed-Loop-Automotive Grades by TEREZ Performance Polymers
On the occasion of the K 2025 fair, TER Plastics is launching the first information about its new post-consumer product line TEREZ CLA. CLA stands for Closed-Loop-Automotive and is targeted specifically to satisfy the upcoming strict recycling requirements for the automotive industry. TEREZ CLA compounds are based on special fillers and polymers coming from closed loop automotive recycling activities.

In order to ensure good availability (adequate for automotive!) as well as high quality (excellent homogeneity!), TER Plastics has entered into exclusive agreements with recycling partners specializing in waste collection and treatment. On top of that, TER Plastics has teamed up with one of the leading automotive Tier1´s to validate the CLA grades for real-life serial applications.

With the experience and the proprietary know-how of each partner, the TEREZ CLA compounds guarantee availability and performance:

Constant properties from lot-to-lot and over a long-time period even in very large quantities can be realized with TEREZ CLA compounds. Thus, the new product line TEREZ CLA provides a significant contribution towards solving the recycling challenge in the automotive industry.

The full information about the product line will be revealed on the Polymer Forum 2026 on June 17 in Aschaffenburg, Germany. Registration for this free-of-charge event will start soon. For peek preview on the K 2025, please visit our booth 8AF33 to learn more about this innovation and ask for presently available grades.
We are looking forward to meeting you on our booth and on the Polymer Forum 2026 in Aschaffenburg!

Versalis ABS Sinkral® for automotive industry

Versalis S.p.A.
Milano, Italy
www.versalis.eni.com

Versalis is Eni's chemical company and operates globally, offering a wide range of products and solutions for various market sectors. The company is engaged in a significant transformation process increasingly focused on portfolio specialization, circularity, and biochemicals, in line with Eni's broader decarbonization strategy.

Versalis has seven research centers and a diversified product portfolio. It is developing chemical recycling technologies for mixed plastics, such as Hoop®, as well as mechanical recycling through the Versalis Revive® range.

Versalis also offers the Balance® product family, ISCC PLUS certified under the Mass Balance Approach: "Bio Attributed (BA)" and "Bio-Circular Attributed (BCA)" made from bio-naphtha, and "Circular Attributed (CA)" when made with "recycled oil" (r-Oil), a pyrolysis oil derived from the chemical recycling of mixed plastic waste.

All products in the Versalis portfolio are also available in the Balance® version.

Versalis produces its Sinkral® ABS based on an innovative Continuous Mass technology developed by its R&D team.

Being a closed loop continuous process, Versalis ABS proprietary technology with its specific know-how ensures a clean and energy efficient process and simultaneously a highly clean ABS, characterized by extremely low impurities and Total Volatile Organic Components (TVOC) content.

Processing Sinkral® allows to enjoy the benefits of lower odor and safer working environment. The same benefits are transferred to the final item allowing production of low TVOC finished goods.

Compared to emulsion polymerization, Versalis Continuous Mass process uses substantially less process water.

Quality production technology

The proprietary Versalis continuous mass technology and the specific know-how in the devolatilization section enables:

- Clean, ecological and energy efficient process
- Less process water
- Consistency of production quality
- Specific analyses of quality and process confirmed by both internal & external certificated laboratory
- Specific selection of raw material suppliers
- Easy processing for customers
- Wide processing window
- Clean products, with minimal impurity and TVOC content
- Wide product portfolio
- Collaboration and technical management with customers

ABS Sinkral® provides a clean, light-colored base which is ideal for colored products and compound.

ABS for Automotive

Sinkral® ABS portfolio meets the needs of the automotive sector with a wide range of specific grades. Thermal resistance coupled with balanced mechanical and rheological properties is a key characteristics.

Thermal resistance - Sinkral® C 442

Sinkral® C 442 in natural and in black colored version has high heat resistance in terms of HDT and Vicat softening temperature which makes it ideal for demanding automotive plastic interior components.
The excellent balance of properties, including mechanical, thermal and rheological, allows Sinkral® C 442 to be used either in extrusion or injection moulding.
Notable characteristics:

- processing stability
- excellent dimensional stability of finished items
- optimal balance between mechanical/thermal/rheological
- "clean" product in terms of low impurities content and Total Volatile Organic Components TVOC

Through a dedicated R&D, Versalis can develop other specific colors on request maintaining the mechanical and thermal performance of the natural base material unchanged.

Impact resistance - Sinkral® B 732/E

Versalis has focused attention on developing its High Impact grade gamma, including Sinkral® B 732/E, which has a great stability to repeated reprocessing.

Sinkral® B 732/E can be used in the extrusion sector for automotive applications that require high impact resistance performances.

This material possesses some characteristics:

- high Impact resistance
- stability to repeated reprocessing
- excellent balance between modulus and impact

Recyclability

Sinkral® ABS offers the possibility to maintain its behavioral and aesthetical properties in a wide range of processing parameters. Compared with ABS produced via emulsion technology, Sinkral® ABS is less sensitive to degradation and tolerates a higher recycle rate of scraps.

Gryfilen® – polypropylene made for European converters, designed for a wide range of applications

Grupa Azoty Polyolefins S.A. is business unit specialized in the production of polypropylene. The new integrated chemical complex with the polypropylene production capacity of 437,000 t/y is one of the largest investments in the European petrochemical industry in last decade. The Company cooperates with TER Plastics as distributor in the main West-European markets.

Produced at the site in Police polypropylene Gryfilen® impact copolymers offer excellent mechanical properties such as high impact resistance and durability, an excellent stiffness and toughness balance, as well as a high chemical resistance to acids, bases or solvents while the homopolymer range stands out due to its superior stiffness. Additionally, Gryfilen random copolymers offer very good optical properties combined with excellent and stable processing capabilities.
The Gryfilen® product portfolio includes a wide range of homopolymers, random and high impact copolymers, which can be used in variety of applications and manufacturing processes such as:

- the food and packaging industry, where the material is used to produce packaging films, thermoformed and injection moulded rigid packaging items such as containers, boxes, cups and trays;
- fibre industry – including woven and non-woven fabrics
- the consumer industry covering the production of all types of household goods, toys and other recreational items;
- the infrastructure industry – for the production of pipes, industrial sheets and profiles, nonwoven fabrics, sewage and drainage systems and assembly elements;
- the compounding sector, supporting industry with building blocks for the production of compounds for automotive and E&E applications.

The list of possible applications of Gryfilen® is much wider and concerns almost every sector of the processing industry.

From the perspective of upcoming regulations such as PPWR, ELV, ESPR and related changes in plastics processing, Gryfilen® polypropylene is a material with huge development potential. Polypropylene is easily and widely recycled and has the potential to displace other materials from the market that are more difficult to recycle. Polypropylene is the preferred material for both mechanical and chemical recycling - these recycling methods will play a very important role in meeting the requirements imposed by EU regulations.
In today's environmentally conscious world, mechanically recycled polypropylene from the post-consumer waste stream (PCR) has emerged as a critical material in the transition towards circular economy. Polypropylene, when properly recycled trough mechanical processes, offer substantial environmental benefits while maintaining much of its original performance characteristics. It reduces landfill waste, cutting CO2 emissions and conserves resources and can be widely used in non-food packaging applications or technical compounding applications.

With understanding of the gravity of climate change, market expectations and regulations related to circular economy Grupa Azoty Polyolefins expands its Gryfilen® product portfolio with new sustainable products.

The new product line is based entirely on post-consumer recycled waste.

Materials used in Gryfilen® PCR are derived from used plastics products like rigid packaging or automotive parts. A proper sorting of recycling streams is crucial to obtain good quality. New Gryfilen® PCR products can be used for a variety of injection moulding applications and offers excellent impact properties combined with good stiffness to avoid brittleness at final articles. Targeted markets include rigid packaging items like crates and pails or storage systems, consumer articles as well as closed loop automotive parts and electrical and appliance applications. The new product line will carry RECYCLASS certification to ensure transparency and traceability of the recycled content allowing our customers to promoting their sustainable product range and to meeting the legislative requirements.

With the wide range of product properties Gryfilen® polypropylene responds to customer and their processing technology needs.

Gryfilen®
POLYPROPYLENE
GRUPA AZOTY
POLYOLEFINS

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Innovation and sustainability: The two fundamental pillars for Franplast S.p.A.

Franplast S.p.A., an Italian company with over 50 years of experience in TPE production, has strengthened its integrated management system by obtaining significant certifications. In addition to renewing its ISO 9001, it has achieved ISO 14001 and ISO 5001 certifications for environmental and energy management, ISO 45001 for occupational health and safety, and ISO 14064-1 (Carbon Footprint) after calculating its carbon footprint. On a social level, it has obtained UNI PdR 125:2022 for gender equality. All these certifications have been recognized by a third-party organization, which awarded Franplast the Certificate of Excellence.

Furthermore, for environmental sustainability, Franplast has installed a photovoltaic system with 2,469 panels, producing over 1 million kWh annually. This results in a saving of almost 600,000 kg of CO2 per year, equivalent to the absorption of over 22,000 trees.

For Franplast, sustainability is a cornerstone that also reflects in its products, particularly through the Chemiton Life brand, introduced in 2016. This line offers eco-friendly compounds made primarily from recycled raw materials or those derived from renewable sources, serving as a valid alternative to fossil-based materials.

Chemiton Life products fall into two categories:

- Bio-based: containing 20% to 60% of material from renewable sources.

- Recycled content: featuring 20% to 80% of recycled raw material from the plastic recycling chain. These materials offer excellent performance: they range from translucent to filled, with good surface finish, are easily processable (injection molding and extrusion), and show good adhesion to polyolefins. Tampon printable versions are also available.

Characterized by a wide operating temperature range, they demonstrate resistance to aging, UV rays, and ozone. Their hardness varies from 30 Shore A to 60 Shore D, and density from 0.88 g/cm³ to 1.24 g/cm³. They are also free of plasticizers, PVC, phthalates, and latex, and comply with numerous strict regulations (REACH, ROHS, RAEE, WEEE, ELV), with some versions approved for food contact (10/2011/CE, FDA) and toy safety (EN71/3).

Thanks to these characteristics, Chemiton Life not only reduces environmental impact but also proves extremely versatile, finding application in diverse sectors such as industrial, fashion, home & design, and even in specific formulations for food contact.

Franplast's R&D team recently launched Chemiton TJB, a new series of innovative thermoplastic compounds. These materials, available with hardness starting from Shore 00 40, have been developed to meet the most complex and specific customer needs, including applications requiring skin contact and food applications. Chemiton TJB compounds are characterized by their ultra-softness, the ability to achieve both translucent and opaque surface finishes, extraordinary fluidity, and exceptional ease of coloring with polyolefin masterbatches.

Franplast stands out not only for its commitment to sustainability and product innovation but, above all, for its complete customization of customer service. The company offers tailored solutions for every specific need, ensuring an "ad hoc" approach. This is supported by the constant research and development carried out in its in-house laboratories.

New laboratory opened in July

The new, larger R&D laboratory, equipped with state-of-the-art machinery, is crucial for meeting customer demands and developing customized solutions for a wide range of applications. This space is also used for training clients and distributors, highlighting Franplast's collaborative and customer-centric approach.

Further information and technical documentation on Chemiton Life and Chemiton TJB are available from TER Plastics, a long-standing partner of Franplast in the distribution of its materials in the German market.

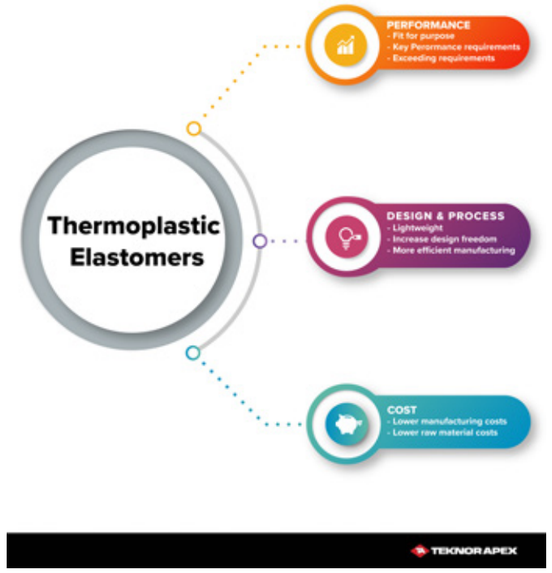
FRANPLAST
TPE-S SPECIALISTS

Franplast S.p.a.
Brescia, Italy
www.franplast.it

Advancing Circularity with Teknor Apex TPEs

Discover sustainable alternatives to thermoset rubber — including certified PCR-based solutions — at K 2025 with TER Plastics.

Thermoplastic elastomers (TPEs) have replaced thermoset rubbers for decades, offering recyclability, design flexibility, and processing efficiency across many applications. For over forty years, Teknor Apex has supported this transition with high-performance alternatives to materials like silicone and EPDM that reduce waste and improve manufacturing outcomes. Today, sustainability is propelling the shift forward. In consumer products and packaging, TPEs offer not only recyclability and processing efficiency, but also safer formulations. In vehicles, the shift from EPDM to thermoplastic vulcanizates (TPVs) supports weight reduction, recyclability, and modular design.



TPEs vs. Thermoset Rubber: Key Benefits

A proven partner in TPE solutions

While design flexibility and processing efficiency have always set TPEs apart from thermoset rubbers, sustainability is now a primary driver for material selection. TPEs support end-of-life recyclability, lower scrap rates, shorter molding cycles, and compatibility with multi-component designs, while eliminating the need for vulcanization.

Teknor Apex continues to expand its TPE portfolio to meet these demands. **The Monprene® SP-14100 Series** is a sustainable alternative to silicone rubber for consumer applications. It offers high-performance for grips, gaskets, seals, and wearable components where durability, softness, and elasticity are key.

Circular innovation with PCR-enhanced TPEs

Teknor Apex offers solutions that incorporate post-consumer recycled (PCR) content — enabling even greater reductions in carbon footprints without compromising performance or processability.

The **Monprene® R6 CP-10100** Series contains up to 60% PCR content and delivers a verified 36% carbon footprint reduction.

- Maintains excellent translucency and color vibrancy
- For grips, straps, gaskets, and soft-touch components in toys, sporting goods, and footwear
- Compatible with injection molding and overmolding processes

For more demanding environments, the **Sarlink® Rx 4100B** Series of thermoplastic vulcanizates (TPVs) offers up to 30% PCR content and a verified 25% carbon footprint reduction.

- For automotive and industrial applications (window encapsulations, glass run channels, and hoses)
- Combines strong chemical resistance, elastic recovery, and broad processing versatility
- Can be processed via extrusion, injection molding, and co-molding/co-extrusion

Both series are backed by third-party verified product carbon footprint (PCF) data and support circular design and life cycle transparency.

Third-party validated sustainability

Teknor Apex holds third-party certifications and provides transparent data to help customers make informed material choices.

- ISCC PLUS certification for sustainable sourcing practices
- RecyClass certification for verified recycled content
- Product Carbon Footprint (PCF) data verified under the Greenhouse Gas (GHG) Protocol and ISO 14067, based on cradle-to-gate assessments

Continuous innovation is our strategy

Our R&D explores bio-based, renewable, and mass balance-compatible feedstocks, along with early-stage work on chemically recycled content. These efforts are supported at the highest level of the organization, including the recent appointment of Chief Sustainability Officer Patricia Mishic O'Brien, who is leading the integration of ESG priorities.

Join Teknor Apex at K 2025

Teknor Apex will be a featured supplier at the TER Plastics booth (Hall 8a / F33) on Friday, October 10 during K 2025. Visit us to learn more about our latest innovations in recyclable and PCR-enhanced Monprene® TPE and Sarlink® TPV materials.
TER Plastics is a valued distribution partner for Teknor Apex in Europe, offering localized support, application development expertise and flexible warehousing.

Follow TER NEWS and Teknor Apex on LinkedIn for more updates.

TEKNOR APEX

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Rothenburg ob der Tauber,
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Magene Technology develops customizable bicycle taillights using PLEXIGLAS® molding compounds

- Smart taillight allows cyclists to display custom symbols
- PLEXIGLAS® Resist AG 100 combines outstanding impact resistance with excellent optical properties
- Röhm's brand polymethyl methacrylate (PMMA) is a tried and tested material for bicycle lights

As early as the 1980s, China was making a name for itself as the land of bicycles. Fast forward to today, and it is now a boom region for rental bikes, e-bikes and cycling accessories. Gone are the days in which bags, lights and other items had to impress merely thanks to their practical properties. Today, it's all about marrying function with design – even when it comes to bicycle accessories. One example of this is the new bicycle taillight from Qingdao Magene Intelligence Technology Co., Ltd, one of China's leading manufacturers of indoor cycling equipment and intelligent bicycle accessories. The L308 taillight not only reacts when the cyclist brakes – the light motif can also be personalized to use the cyclist's own symbols. A display cover made of PLEXIGLAS® Resist AG 100 molding compound, which was developed specifically for components subjected to great stresses, contributes to the high luminance and long lifespan of the light.

PLEXIGLAS®, the brand polymethyl methacrylate (PMMA) from Röhm, generally offers unexcelled transparency and light-guiding properties, is UV and weather-resistant, can be processed with precision in an injection molding process and can be colored precisely in signal colors. "For a long time, PLEXIGLAS® molding compounds have been successfully used in lighting applications, and also for innovative bicycle lights," comments Gren Liu, General Manager of Röhm Molding Compounds Business Asia "With our high-quality PMMA product portfolio and professional R&D and application support team, we help our customers develop more innovative applications with high added value."

Striking luminance

A bicycle taillight should ensure visibility and safety in road traffic. The L308 from Magene Technology goes a step further than conventional taillights: It recognizes when the cyclist is braking and switches to a bright flashing mode that warns other road users. When doing so, the cover made of PLEXIGLAS® Resist AG 100 ensures high luminous efficiency.

The L308 taillight offers various lighting modes from constant light to flashing, and allows the user to adjust the brightness and flash frequency of the light. What makes it so special is the ability to customize the display. Users can choose between various preset symbols – such as hearts, smileys or arrows – or even create their own emoticons, texts or animations using an app. This allows them to customize the taillight with virtually no effort.

Resistant to impacts, UV and the weather

As an outdoor cycling accessory, the taillight not only needs to meet optical standards – it must also be able to withstand all manner of stresses and strains, such as when the bike falls over. The component must also be resistant to rainy and sunny weather, and it must be possible to remove splashes of mud without scratching it.

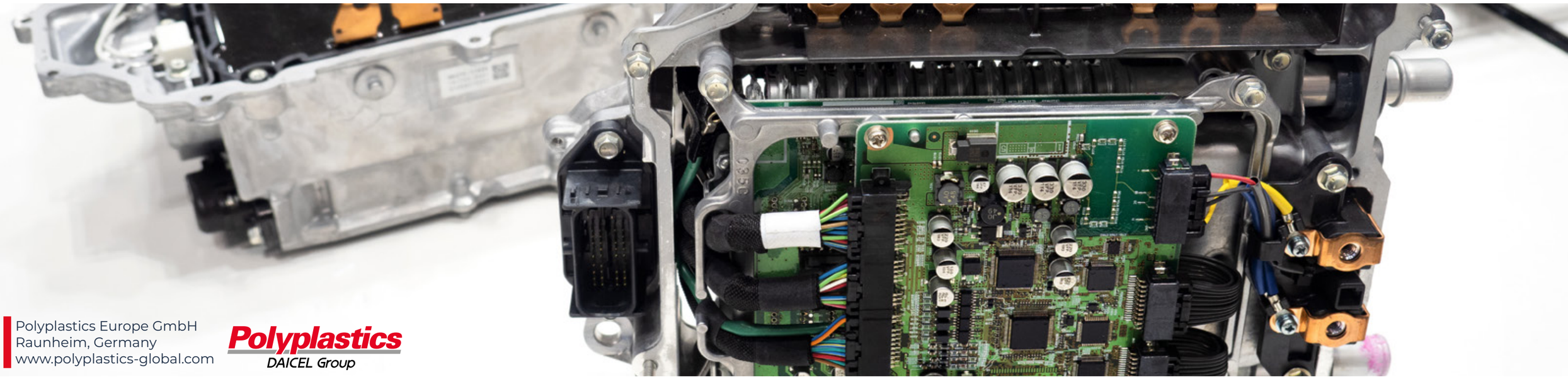
> "Röhm's impact-resistant PLEXIGLAS® Resist AG 100 is a perfect match for the multiple requirements of this product"
>
> Zheng Rugong
> Head of molding department,
> Magene Technology

For this reason, Magene Technology started scouting for the right material: "In the beginning, we chose a material that is resistant to falling and impacts for the lens," states Zheng Rugong, head of Magene Technology's molding department. "But it is easy to throw mud when riding. After repeated wiping, scratches began to appear on the surface of the taillight. Finally, we found Röhm's impact-resistant PLEXIGLAS® Resist AG 100, a perfect match for the multiple requirements of this product."

PLEXIGLAS® Resist AG 100 combines outstanding transparency, unsurpassed UV and weather resistance and high surface hardness of standard PMMA with even higher break, impact and stress crack resistance. Thanks to this combination of properties, the cover of the L308 taillight remains as good as new for years to come, ensuring that cyclists are easy to see on the road.

RÖHM
TRADITIONALLY INNOVATIVE

Röhm GmbH
Darmstadt, Germany
www.plexiglas-polymers.com



Polyplastics Europe GmbH
Raunheim, Germany
www.polyplastics-global.com

Polyplastics
DAICEL Group

DURAFIDE® PPS: Reliable Heat Shock Resistance for E-Mobility and Beyond

As the plastics industry gathers at K Fair in Düsseldorf, the spotlight is on advanced materials that meet the demands of modern technologies. Among these, Polyplastics stands out for its expertise in high-performance thermoplastics. With over 60 years of experience, the company leads the global market in POM and LCP, offering a robust portfolio that includes POM, PBT, PPS, LCP, PEK, and COC. Their strength lies in their global R&D and manufacturing network, which enables the development of innovative solutions for dynamic industries.

A growing area of focus is thermal shock resistance—critical in today's automotive landscape, especially for electric and hybrid vehicles (EVs and HEVs). As components like ECU cases, terminal blocks, and busbars increasingly feature metal parts overmoulded with PPS, they face stress caused by differing material behaviors under temperature changes. Plastics shrink and expand more than metal, which can lead to cracks, especially at low temperatures. Outdoor automotive parts, in particular, must withstand rapid and extreme thermal cycling—ranging from freezing winters to engine bay heat—while maintaining dimensional stability and long-term mechanical integrity.

To meet these challenges, Polyplastics has developed two grades of DURAFIDE® PPS with improved heat shock resistance, each based on a different design philosophy tailored to specific application needs.

DURAFIDE® PPS 6155T7: Optimized Toughness Through Impact Modification

DURAFIDE® PPS 6155T7 is formulated with impact modifiers and a carefully controlled filler composition to address the weaknesses traditionally associated with high-filled PPS compounds.

- High filler content brings low shrinkage and reduced residual stress, helping parts retain shape and integrity.
- However, this can lower toughness and heat shock resistance. Polyplastics solved this with impact modifiers optimized for effective dispersion, enhancing resistance to cracking under rapid temperature shifts.
- The use of less anisotropic fillers also reduces stress concentrations, further boosting mechanical strength.
- This grade is ideal for parts requiring a balance of dimensional precision and resistance to thermal cracking, particularly in EV components.

DURAFIDE® PPS 1140HS6: High Thermal Shock Resistance Without Impact Modifiers

DURAFIDE® PPS 1140HS6 offers excellent heat shock performance without impact modifiers- a unique approach that brings advantages in processing and reliability.

- Without modifiers, this grade offers superior flow, making it easier to mold complex parts with fewer defects.
- It also results in reduced mold deposits, lowering maintenance needs and improving productivity in serial production.
- Optimized base resin viscosity ensures sufficient toughness even without added modifiers.
- Like 6155T7, it uses less anisotropic fillers for more uniform stress distribution, especially around metal inserts.

This formulation is suited for high-efficiency production settings where both performance and ease of processing are key, offering long-term reliability in demanding environments.

Both DURAFIDE® grades maintain the core strengths of PPS: high mechanical strength, heat and chemical resistance, flame retardancy, and excellent toughness.
They are used in a wide range of applications, from automotive electrical and engine-adjacent components to water mixing valves in bathrooms and kitchens, ensuring durable and safe performance.

Polyplastics' continued innovation in PPS technology supports the evolving needs of the mobility, industrial, and consumer sectors. Their materials help ensure component durability under severe environmental conditions, particularly where thermal cycling and metal-resin interfaces are involved.

For more details, technical support, or material selection advice, please contact your TER Plastics representative - Polyplastics' strategic partner for the European market.

Visit us at K Fair to discover the future of PPS materials with Polyplastics.

Next-Gen. PBT: Performance Meets Sustainability - Chang Chun Plastics

Polybutylene Terephthalate (PBT) is a thermoplastic polyester resin synthesized via polycondensation of 1,4-butanediol and purified terephthalic acid (PTA). Through downstream modifications such as glass fiber reinforcement and the incorporation of flame-retardant additives, PBT exhibits excellent electrical and mechanical properties, making it one of the most widely utilized high-performance engineering plastics.

Chang Chun Group has accumulated nearly four decades of expertise in the production and commercialization of LongLite® PBT engineering plastics. In response to domestic industrial transformation, the company has invested substantial resources in R&D to develop this material. With robust vertical integration capabilities, Chang Chun ensures stringent control over raw material quality and leverages proprietary technologies to deliver premium-grade PBT resins to the industry.

In alignment with corporate sustainability objectives, Chang Chun has independently developed a chemical recycling process utilizing post-consumer PET bottles, PET films, and polyester textiles. These feedstocks are depolymerized and regenerated into PBT resins under the CR Series, which not only offer high-performance characteristics but also reduce product carbon footprint by approximately 20%. The CR Series has obtained ISCC PLUS certification, and can provide customers with PBT resin containing up to 100% recycled content.

To meet evolving customer demands, Chang Chun has introduced Post-Consumer Recycled (PCR) PBT and PET materials, which demonstrate significant environmental benefits—up to 95% and 53% reductions in CO_2 emissions, respectively, compared to virgin materials. Notably, the PBTc product manufactured at Chang Chun's Kaohsiung synthetic resin facility contains 30–50% recycled content, and the resulting r-PBT/r-PET compounds are suitable for applications such as air fryer housings, cosmetic components, cooling fans, and home appliance casings. These materials are estimated to deliver 50–60% carbon reduction. Furthermore, the company is actively addressing global marine pollution by incorporating Ocean-Bound Plastic (OBP) r-PET, and is developing product portfolios that include bio-based and recycled feedstocks to support customers' long-term sustainability and carbon neutrality goals.

Grade	Description	PCR Content (wt%)
MR1100	Unfilied, General Purpose	30, 50
MR3030	rPBT-GF30 HB	>30
MR3030LR	rPBT-GF30 HB Hydrolysis R	>30
MR4130	rPBT-GF30 FR	>30
MR6200	rPBT/rPC FR	>40

LONGLITE PCR PBT grade

- Named by MR series
- Drop-in solution for replace (Same shrinkage)
- Post Consumer PBT
- Lowest Carbon Footprint

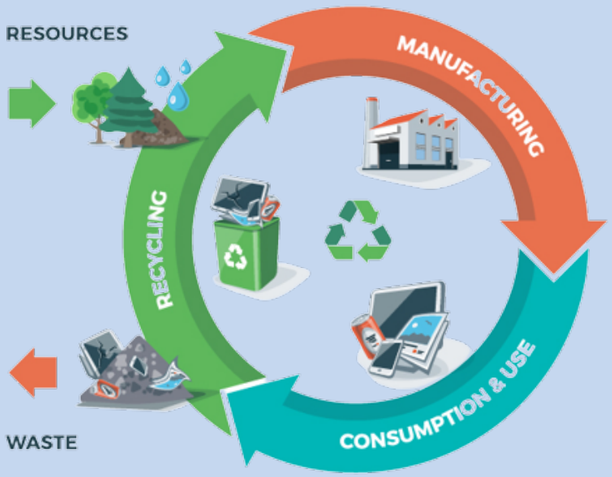
Chang Chun offers a diverse range of recycled PBT specifications, categorized as follows:

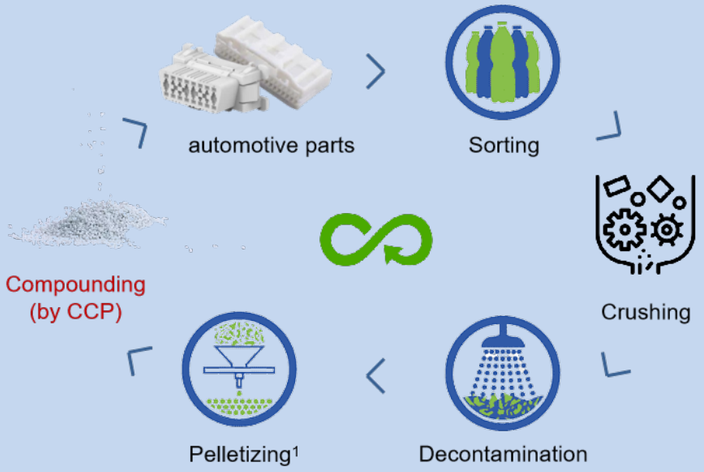
- Post-Consumer Recycled (PCR) – rPET/PBT: Derived from discarded PET bottles, mechanically recycled and reused.
- Post-Consumer Recycled (PCR) – rPBT (Mechanical): Mechanically recovered PBT materials.
- Post-Consumer Recycled (PCR) – rPBT (Chemical): Chemically recycled PBT via depolymerization of polyester waste (e.g., bottles, textiles).
- Bio-Circular Feedstock – PBT: PBT resin synthesized from non-food bio-based raw materials, incorporated into compound formulations.
- Post-Industrial Recycled (PIR) – PBT: Recycled PBT waste generated during the manufacturing process.

Among these recycled variants, Mechanical rPBT (MR) offers the lowest carbon footprint, maintains dimensional stability, and enables direct substitution without tooling modifications, providing a seamless transition for customers. Chang Chun Petrochemical Group (CCPG) obtained ISCC PLUS certification in October 2024, and successfully achieved UL product carbon footprint certification in July 2025, in accordance with ISO 14067:2018 standards.

CCP 長春集團 Chang Chun Group

CCD (Germany) GmbH
Düsseldorf, Germany
www.ccp.com.tw





Maximizing Thermal Efficiency in Modern Electronics with SILCOOL™ Silicone Solutions

As electronic devices become more compact and powerful, they generate increasingly higher levels of heat. This trend toward higher frequencies, elevated power requirements, and greater miniaturization poses new challenges for thermal management. To address these, Momentive has developed and continually enhanced the SILCOOL line of thermal interface materials, engineered to help maintain the efficiency and reliability of heat-sensitive components in electronic assemblies.
SILCOOL thermal interface materials are formulated to deliver excellent thermal conductivity and long-term performance stability. These properties are critical in helping electronic devices dissipate heat effectively, thereby supporting sustained operational efficiency and extending product life cycles.
Momentive offers a comprehensive range of thermal management products under the SILCOOL brand, including gap fillers and compounds, adhesives, thermal compounds and greases, and potting materials. Each product category is tailored to specific use cases, enabling customers to find the right solution for their application

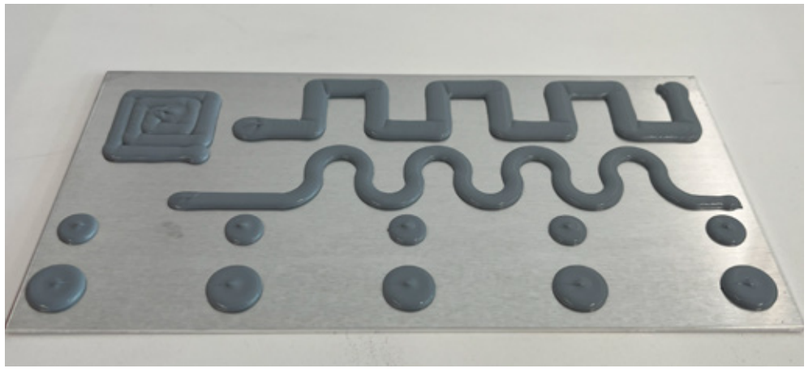


Figure 1: Ability to process; can conform to irregular shapes

requirements.

Gap Fillers and Compounds
SILCOOL gap fillers are thixotropic, thermally conductive silicone materials designed for effective heat dissipation. Their soft consistency helps them conform to irregular surfaces, making them ideal for filling air gaps and voids between heat-generating components and heat sinks. This characteristic enhances heat transfer while simultaneously relieving stress caused by thermal cycling and vibration. These materials offer a fast, low-temperature cure and can be easily processed in high-volume manufacturing settings. They also operate effectively across a wide temperature range and are repairable.

Thermal Potting and Encapsulants
SILCOOL thermal encapsulants and potting materials combine excellent thermal conductivity with low-stress mechanical properties. These materials are designed for easy flow into small and complex cavities, ensuring comprehensive coverage and thermal management. Their low modulus across a broad temperature range helps prevent issues like core cracking, while their 1:1 mix ratio supports ease of use in manufacturing environments. These materials can cure at room temperature or

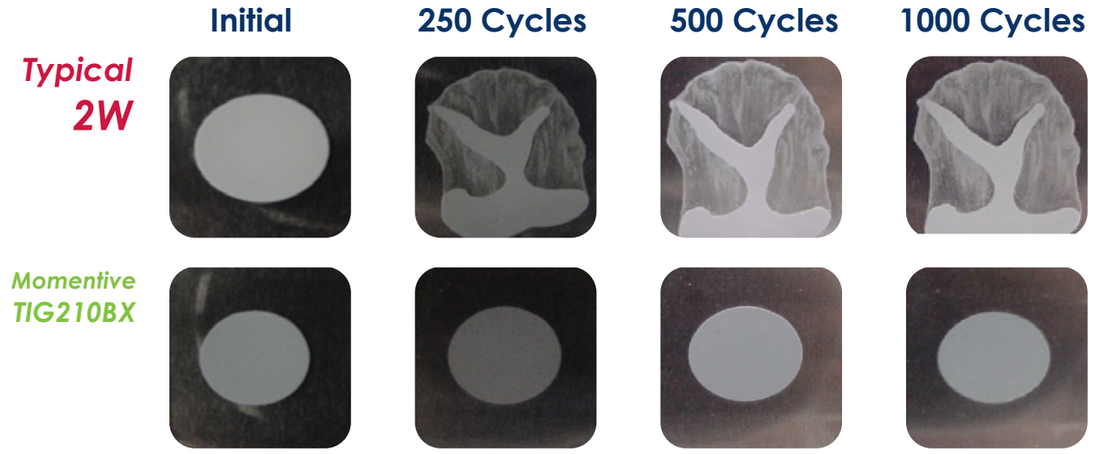


Figure 2: Performance in Temperature Cycling

under heat, offering flexibility in processing, and are non-corrosive to metals - making them well suited for sensitive electronic assemblies.

Thermal Adhesives
SILCOOL thermal adhesives are engineered to bond components while simultaneously managing heat. These adhesives offer a reliable alternative to mechanical fastening systems such as screws and clips, simplifying the assembly process. They exhibit excellent thermal conductivity and maintain structural adhesion without the need for primers on many substrates. Even after curing, they remain flexible - helping absorb mechanical stresses and vibration. Their ease of processing and suitability for high-volume manufacturing makes them a practical choice for demanding electronic applications.

Thermal Compounds, Grease, and Phase Change Materials
The SILCOOL line also includes thermal greases, compounds, and phase change materials that offer low thermal resistance and superior workability. These products are suitable for screen printing and other high-throughput manufacturing methods. They are characterized by their ability to resist dry-out and pump-out under high temperatures, maintain performance over a wide temperature range, and exhibit minimal weight loss at elevated temperatures. Many of these materials are also repairable, further enhancing their value in production and maintenance settings.

TER Plastics entered into a distribution agreement with Momentive in March 2022. Under this agreement, TER began offering Momentive's portfolio of high-performance silicone specialities to the electric and electronics sector.
Following the success in the Italian market, in April 2025, TER Plastics and Momentive decided to extend their partnership to new distribution areas: Germany, Austria, Switzerland, the

Czech Republic and Slovakia.

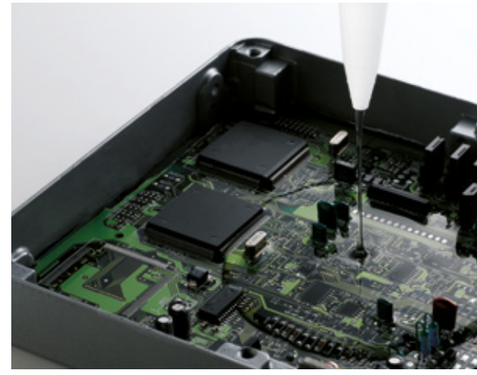


Figure 3: owned-momentive-potting

MOMENTIVE™

Momentive Performance Materials
Leverkusen, Germany
www.momentive.com/de-de

High-performance gears for compact and durable comfort actuator units

By Adnan Hasanovic
Application Expert, Gears & Bearings, Envalior

Challenges with traditional gear materials

Compact comfort actuators in modern vehicles demand compact gears that require durability performance at high loads and over long times. While POM and PA66 are popular materials, they can fail to meet the durability requirements especially in compact and highly stressed geartrain designs.

Load cycle tests reveal that both POM and PA66 can have challenges with gear wear and tooth fracturing under high temperatures and high torque, leading to premature failure of the complete actuator unit. Reinforcing these materials to improve gear durability typically can in some cases result in oversized geartrain designs, which can be incompatible with design space constrains common in these actuator units. This necessitates time-consuming design adjustments, further increasing development time and development costs.

As the demand for compact, high-performing comfort actuators grows, gear manufacturers are looking for innovative and cost-effective materials that combine durability, strength, cost-efficiency and design flexibility.

Stanyl® PA46: The ideal solution for actuator gears

Envalior's Stanyl PA46 is a high-performance aliphatic polyamide specifically designed for demanding automotive applications. It offers exceptional mechanical strength, wear resistance, and flow properties, making it the ideal choice for lightweight, thin gears used in comfort actuators.

Key Benefits of Stanyl PA46:

- Superior Torque Capacity: Stanyl PA46 gears demonstrate up to 25-50% higher torque capacity compared to PA66 and POM.
- Outstanding Thermal Resistance: At 140°C, Stanyl PA46 is about 45% stronger than PA66 and about 150% stronger than POM, ensuring reliability under high-heat conditions.
- Enhanced Design Flexibility: The material's flow properties enable the production of compact, lightweight gears that meet stringent design requirements.

These properties make Stanyl PA46 particularly effective in high load and compact gear designs like for example worm gears, which generate significant internal frictional heat and can result in higher operating material temperature in the gear tooth contact compared with the ambient temperature conditions.

Delivering cost efficiency and long-term savings

Many manufacturers choose Stanyl PA46 as a cost-effective alternative to metal gears and high-cost solutions like polyetheretherketone (PEEK). Stanyl's superior performance can eliminate the need for expensive wear and friction optimizers or carbon fiber reinforcements that can otherwise be needed with lower temperature materials like PA66 and POM.

Compared to reinforced PA66, POM, PPS and PPA, Stanyl PA46 achieves up to 50% higher torque capacity at 130°C, reducing the need for additional design refinements that can be required with alternative materials. This allows manufacturers to produce high-quality parts faster and more efficiently.

With over two decades of proven performance in automotive gears, Stanyl PA46 is trusted globally by OEMs, Tier 1s, and part suppliers. Annually, it is used to produce nearly 100 million gears installed in 40 million actuators in comfort, engine, cooling, and powertrain systems.

At Envalior, we don't just provide materials; we deliver complete solutions. Our hands-on expertise in material selection, design, and application ensures that our customers meet evolving market demands while strengthening their competitive edge.

Contact us today to discover how Envalior's advanced materials can revolutionize your comfort actuator designs and drive your business forward.

Envalior
Imagine the Future

Envalior GmbH
Düsseldorf, Germany
www.envalior.com

Revolutionizing Rubber Application: Huafon's RBX Series TPU

The global quest for lighter, higher-performing, and sustainable material solutions is driving innovation across industries. Huafon, a leading innovator in advanced polymer materials, introduces its RBX Series TPU - a breakthrough high-performance material engineered specifically to replace traditional rubber in demanding applications. This innovative material platform has already demonstrated remarkable success beyond footwear, encompassing automotive tire sidewalls, bicycle inner tubes, and specialized tire treads for various mobility applications. Across these diverse implementations, RBX TPU delivers transformative advantages over conventional rubber compounds: significantly reduced weight, dramatically enhanced processing efficiency, superior dyeing capabilities for expanded design possibilities, and a substantially lower environmental footprint throughout the product lifecycle.

Building on this foundation of successful rubber substitution across multiple industries, RBX TPU demonstrates particularly transformative characteristics for shoe sole applications, effectively overcoming the inherent limitations of traditional rubber while elevating performance to unprecedented levels. The material's unique properties address the footwear industry's most pressing challenges while opening new possibilities for design and functionality.

Engineered for Superior Outsole Performance:

RBX TPU delivers exceptional wet and dry slip resistance, rigorously validated by SATRA TM144 testing protocols. The material not only matches but frequently outperforms both standard rubber and advanced rubber foam benchmarks in critical safety metrics. This exceptional performance stems from the material's sophisticated polymer architecture, which provides superior traction characteristics across diverse environmental conditions. Beyond slip resistance, RBX TPU combines this critical safety feature with exceptional abrasion resistance, particularly at elevated temperatures up to 80°C, where many alternative materials begin to degrade. The compound maintains high tensile strength and excellent tear resistance, ensuring outstanding durability even in the most demanding usage scenarios. Most impressively, RBX enables ultra-thin constructions down to 0.3mm while maintaining performance integrity, allowing for significant weight reduction without compromising protection or durability.

Versatile Processing & Consistent Quality:

Designed for manufacturing flexibility across various production environments, RBX offers tailored solutions through specialized product grades. The Injection Grades are specifically optimized for efficient molding of complex outsole geometries, enabling intricate designs and detailed patterning that would challenge conventional materials. Meanwhile, the Extrusion Grades provide exceptional consistency for creating uniform sheets ideal for high-frequency die-cutting and embossing intricate patterns with exceptional precision. RBX demonstrates enhanced processing stability across diverse manufacturing methods including brush-glue cold bonding, steam molding, advanced lamination techniques, and dual-temperature co-extrusion casting processes. This processing versatility ensures manufacturers can integrate RBX into existing production lines with minimal adjustments while achieving superior rebound characteristics in the mid/outsole combination. The material's availability in both solid colors and transparent variants further expands design possibilities, meeting diverse aesthetic and functional demands across market segments.

Sustainable Foundations & Future Vision:

RBX represents a significant step forward in sustainable material innovation, being fully recyclable and eco-friendly while contributing to a more circular footwear economy. The material's environmental credentials extend beyond end-of-life considerations to include reduced energy consumption during processing and transportation due to its lightweight nature. Looking ahead, Huafon is advancing its sustainability leadership through several groundbreaking initiatives. Future bio-based polyether TPU grades for injection-molded foam midsoles and sheet-foam insoles are approaching mass production readiness, targeting commercial launch by early 2026. These innovative materials can be formulated with 1% to 60% bio-based content while preserving the essential chemical structure and minimizing impact on key physical properties, offering manufacturers unprecedented sustainability options without performance compromises.

The Integrated Full-Sole Solutions approach represents another significant innovation, where RBX series outsoles perfectly complement these upcoming bio-based foam components. This holistic system enables manufacturers to create cohesive full-sole solutions that combine RBX's superior abrasion and slip resistance with the lightweight comfort, enhanced sustainability, and customization potential of advanced bio-based polyether foams. This integrated approach simplifies sourcing while ensuring optimal performance compatibility between components.

Huafon & TER Plastics: Enabling the Future of Footwear Materials:

Step forward with RBX TPU – where exceptional performance, manufacturing efficiency, and recyclability converge to create new possibilities in footwear design and production. We invite progressive footwear brands to partner with us in integrating these cutting-edge materials into your next-generation footwear collections. Our technical team provides comprehensive support from material selection through production implementation, ensuring seamless integration of RBX technology into your manufacturing processes. Together, we can redefine performance and sustainability standards while delivering exceptional products that meet evolving consumer expectations and environmental responsibilities.

ZHEJIANG HUAFON TPU CO.,LTD
Ruian City China
www.huafontpu.com

huafon 华峰
New Materials New Life

Highly concentrated and effective: every Fibaplast masterbatch from Finke represents a tailor-made solution according to customer requirements.

Small pellets - big effect!

Color makes the difference: it lends personality, evokes emotions and provides decisive recognition value.

As an experienced development partner, Karl Finke GmbH & Co. KG has been supporting companies on the way to innovative products for over 75 years. Collaboration based on partnership and trust along the entire value chain is essential - and this is precisely what connects Finke with the TER Plastics POLYMER GROUP as a reliable raw materials supplier and long-standing partner.

At the center of Finke's expertise is the masterbatch, a highly concentrated mixture of color and/or additive components embedded in a carrier polymer. These small but powerful pellets enable fast, clean and precise coloring of thermoplastics. Masterbatches are one of the most effective solutions for coloring plastics and are used in a wide variety of industries and applications due to their versatility.

Known under its brand name Fibaplast, Finke's masterbatch is used in common processing methods such as injection molding, film extrusion and stretch blow molding and is tailored to the specific requirements of a wide range of industries such as packaging, toys, pharmaceuticals, electronics and many others. Each Fibaplast is tailor-made to the specific needs of the customer. Requests are considered individually to ensure that the coloring and functional properties of the masterbatch are best suited to the process and the desired application.

A key aspect of masterbatch development is the selection of the right carrier polymer. Besides standard carriers there are recycled carriers or customer-specific materials available. This flexibility ensures optimum processing and color distribution, which is of great importance for production and quality assurance. Finke's masterbatches can be precisely dispensed and therefore offer very high reproducibility and quality.
In addition to color matching, the integration of functional additives also has a key role to play. Masterbatches offer the possibility of directly integrating additives such as UV stabilizers, antioxidants or other functional active ingredients. In this way, plastic products can not only be designed visually, but their durability and technical performance can also be improved.
The additives ensure that the products retain their optical and functional properties over their entire service life - whether through better UV protection, greater resistance or additional safety features.
Another advantage of Fibaplast Masterbatches is the comprehensive support that customers receive during the development of their products. From the initial idea to development and practical implementation, every project is carefully monitored.
The experts at the Finke Solution Center provide advice at all stages of the process and ensure that both the color requirements and the functional requirements of the final product are met. Advice is offered not only in the laboratory, but also directly on site at the customer's premises. This ensures that masterbatch solutions can be perfectly integrated into the production processes.

With decades of experience and extensive expertise in the field of pigment preparations for plastics, Karl Finke GmbH & Co. KG offers a wide range of solutions tailored to the specific needs of its customers. The company knows how to meet the requirements of the plastics procesing industry with innovative, flexible and sustainable solutions while always ensuring high color fidelity and product quality.

Diversity in detail: The fine tuning of color , carrier polymer and additives is crucial for the final product

Finke
Pigmente · Flüssigfarben · Masterbatche

Karl Finke GmbH & Co. KG
Wuppertal, Germany
www.finke-colors.eu

OMEGA TECHNOLOGY – Investing in Technology and Sustainability to Secure Germany’s Industrial Competitiveness

OMEGA TECHNOLOGY GmbH & Co. KG is an owner-managed, medium-sized enterprise in the plastics industry, headquartered in Diepholz, Lower Saxony. Every year, the company produces over 200 million high-quality technical plastic components and assemblies using 63 fully automated injection molding machines with clamping forces of up to 7,500 kN.

OMEGA supplies a broad range of international markets - including electrical and household appliances, agricultural engineering, and the furniture industry - with a continued focus on its core business in the automotive sector.

OMEGA has also established itself as a relocation expert. Thanks to lean and flexible structures, numerous tooling relocation projects and customized customer solutions have been successfully implemented within very short timeframes - with seamless transitions, zero production downtime, and the trust of renowned clients.

A key success factor is OMEGA’s long-standing collaboration with suppliers and business partners, including TER Plastics POLYMER GROUP. For over two decades, TER Plastics has supported OMEGA as a reliable raw materials supplier and strategic development partner. Together, the companies have implemented numerous high-performance plastics projects – for example with Stanyl, a material used in components subject to high mechanical loads such as lock housings or function-integrated structural parts in automotive applications.

While many companies are relocating production abroad in response to global competition and rising energy costs, OMEGA is taking a different path: continuously expanding and strengthening its Diepholz site. At the heart of its strategy lies the ongoing modernization of production. Over the past 10 years, OMEGA has invested approximately 17 million euros in new machinery, automation technology, and infrastructure to consistently enhance efficiency, precision, and process stability. This path continues in 2025, with the addition of three new injection molding machines offering clamping forces between 400 and 750 tons.

Another forward-looking project currently underway is the construction of a photovoltaic system with a capacity of approximately 1,650 kWp. Once completed, it will cover up to 40% of the company’s total electricity needs. With this, OMEGA is making a strong commitment to sustainability and energy independence. The system is currently being installed and marks a key milestone in the company’s overarching sustainability strategy.

In parallel, OMEGA is pursuing a consistent automation strategy. Each year, for example, the company automatically assembles, inspects, and packages around 20 million plastic guides for car seats - integrating approximately 350 million steel balls with zero defects. This enables OMEGA to deliver top-tier quality at competitive costs, even without the wage advantages of low-cost countries.

Alongside tech investments, employee training remains key. Daily operations include regular sessions on digital manufacturing, process optimization, and quality control. A data-driven quality system ensures high standards, with further upgrades coming, like a new CT measuring system to boost in-line inspection

OMEGA’s strategy is proving successful: in the first half of the year, the company secured major projects in both the automotive and furniture sectors through international tenders – successfully competing against rivals from Eastern Europe and Asia.

OMEGA TECHNOLOGY stands as a prime example of a modern, forward-thinking industrial enterprise "Made in Germany." Through targeted investments in people, machinery, and sustainability – and in close collaboration with customers and suppliers – OMEGA continues to remain internationally competitive even under challenging conditions: with innovation, quality, and responsibility.

OMEGA TECHNOLOGY GmbH & Co. KG
Diepholz, Germany
www.omega-technology.de

We make flow digital

enesty GmbH
Hartha, Germany
www.enesty.org

In plastics processing, it is not only the choice of material or the machine that determines the quality of the end product, but also the integrated peripherals. In particular, mold temperature control plays a decisive role. The cavity temperature is the only variable that can be directly influenced and has a direct impact on the cooling time and therefore on cycle times, energy consumption and component quality.

With its orcinus temperature control systems, enesty GmbH has developed a solution that addresses precisely this issue. Under the motto “we make flow digital”, the company is pursuing the goal of fully digitizing temperature control processes, making them transparent and comprehensively documentable. The focus is not just on data acquisition, but on using it smartly to optimize the entire production process.

The principle of parallel distribution is at the heart of orcinus systems. Here, the cooling or temperature control medium is distributed evenly from a central distributor to all connected circuits. This type of supply ensures that the same temperature and flow rate is present in each circuit, which is essential for the consistent quality of the manufactured components. Precise temperature control monitoring plays a key role in plastics processing in particular, where temperature differences can lead to warping, internal stresses or even defects in the end product.

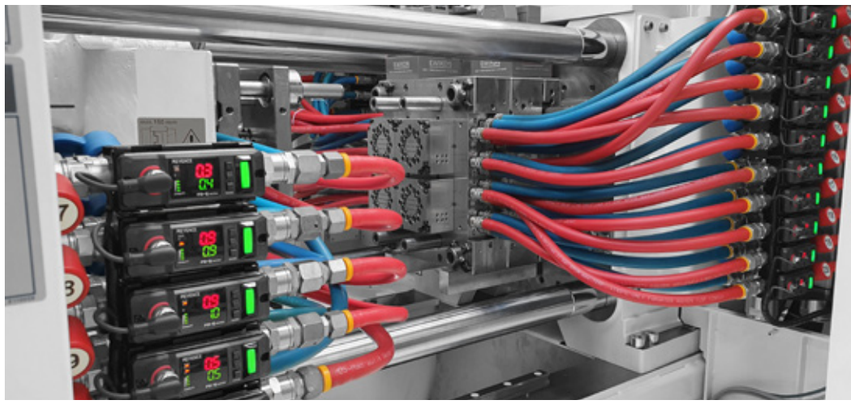
At the heart of the systems is the non-contact double ultrasonic sensor technology. It measures temperature and flow rate precisely and without contact with the medium. This eliminates the need for filters. This reduces maintenance costs and prevents potential failures of the measuring sensors, which could otherwise lead to production interruptions or quality losses. The systems are therefore maintenance-free.
Another decisive advantage is the integrated tool data storage. Once settings have been defined, they can be stored centrally and called up again as required. This function saves a considerable amount of time and prevents errors, particularly in the case of frequent changeovers or multi-shift operation. As a result,

repeat accuracy and process stability can be sustainably increased.

The orcinus systems are designed for both low temperatures and media temperatures of up to 180 degrees Celsius. The system has alarm outputs and various interfaces for machine communication. Deviations from the setpoint are reported immediately both visually via the touch display and via external signal paths, so that operators and connected control systems can react immediately. An intuitive display, clear menu navigation and the option of data record management make daily use easier.

The plus variants are available for even more flexibility: Using one control valve per circuit, these enable precise control of the desired flow rate, a fixed valve opening or a temperature difference per circuit.

The precise monitoring and control of temperature and flow is a decisive success factor in the processing of plastics with high demands on dimensional accuracy and surface quality. The orcinus systems enable plastics processors to exploit the full potential of their materials, stabilize processes and at the same time significantly reduce energy consumption and operating costs. In addition, they support the increasing digitalization in production through clearly structured data, interfaces to existing systems and injection moulding machines.
The digital temperature control systems will be in use in Hall 10 at Stand H23 and in Hall 11 at Stand I53.



enesty orcinus

Circular thinking in industrial lighting: How PRACHT is setting new standards for sustainable lighting solutions with INFINITY.

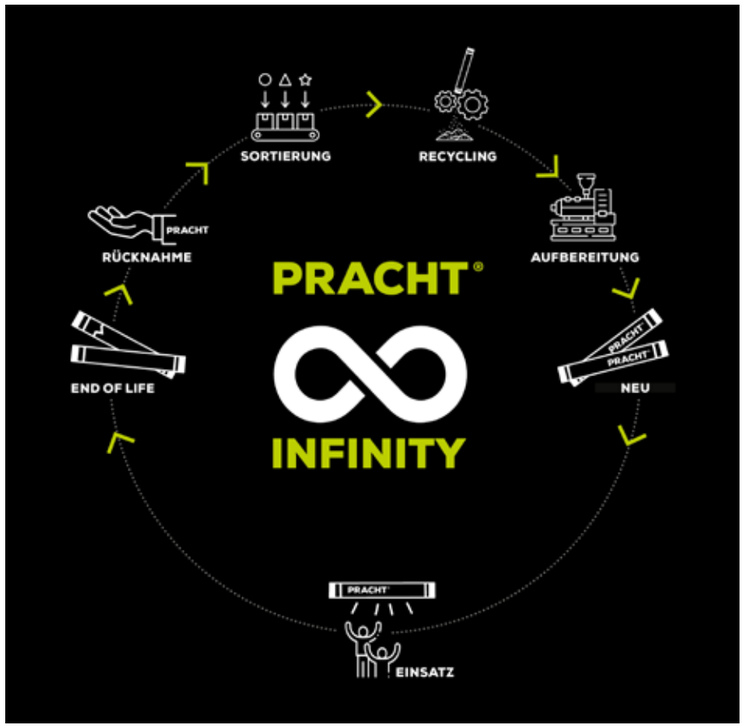
In today's industrial lighting landscape, functionality and efficiency alone are no longer enough. Companies are increasingly focusing on sustainable, forward-thinking concepts that go far beyond traditional lighting solutions. The importance of conserving resources, taking environmental responsibility, and innovating in the area of recycling is constantly growing. This is where PRACHT steps in, offering a well-considered circular approach and the revolutionary INFINITY system for handling old luminaires. Rather than treating them as waste, PRACHT reprocesses them as a valuable resource for new products.

The circular principle of INFINITY is reflected in the PRACHT product portfolio, as demonstrated by these three luminaires: APOLLO REMADE, BL ONE and TUBIS 90. These luminaires showcase the potential of modern industrial lighting, offering sustainability, robustness, flexibility and technological excellence. All three luminaires contain a high proportion of recycled plastic — up to 98%! As a high-performance partner, the TER Plastics POLYMER GROUP reliably supports PRACHT in manufacturing sustainable

products that meet the highest standards.

APOLLO REMADE - Redefining the damp-proof luminaire

The ultra-efficient APOLLO REMADE, which is made from up to 98% recycled plastic, offers much more than an updated version of the well-known APOLLO damp-proof reflector luminaire. It is a prime example of sustainable design and technical innovation. Its closed housing complies with IP65 protection class standards, making it ideal for demanding environments. A swivelling reflector enables flexible light distribution. Thanks to the sophisticated mounting system, installation is quick and tool-free.



BL ONE – First diffuser light with up to 98 % recycled content

PRACHT's BL ONE impressively combines sustainability and state-of-the-art lighting technology. As the first diffuser luminaire with up to 98% recycled content, it sets a strong example for recycling management and resource conservation. It is equipped with a flexible range of features, from simple switching to optional sensor technology.

TUBIS 90 – Robust tubular with maximum adaptability

The TUBIS 90 completes the trio of sustainable luminaires, impressing with its durability and versatility. With 89% recycled content, it is another example of PRACHT's commitment to circular design. The robust housing is impact-resistant, chemical-resistant, and high-pressure watertight. The luminaire can be swivel-mounted and adapted in various ways.

INFINITY - the core of the sustainable cycle

All three luminaires — the APOLLO REMADE, the BL ONE and the TUBIS 90 — are fully INFINITY-capable. This innovative concept allows the luminaires to be returned to the PRACHT production cycle once they reach the end of their lifecycle. The materials are separated by type, recycled, and reused in production. This recycles valuable materials and significantly reduces CO_2 emissions.

The INFINITY system also optimises internal processes, including occupational safety, hygiene and quality assurance. This demonstrates PRACHT's commitment to creating sustainable products and processes.

Sustainability as a corporate philosophy

PRACHT takes a holistic approach to sustainability, going far beyond individual products. This is proven by its ZNU 'Sustainable Management' certification. This means that PRACHT is committed to balanced social, ecological and economic behaviour, from the responsible use of resources to fair employee development.

Conclusion: Responsible industrial lighting

With the APOLLO REMADE, the BL ONE and the TUBIS 90, PRACHT demonstrates how modern industrial lighting can be both high-performance and sustainable. Consistent circular thinking and the INFINITY system prove that environmental awareness and technical excellence can go hand in hand. PRACHT is therefore setting a new standard for industrial lighting that provides light and actively conserves resources, closing cycles — both now and in the future.

Alfred PRACHT Lichttechnik GmbH
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