Highlights

by AKRO-PLASTIC GmbH

AKRO-PLASTIC GmbH
Member of the Feddersen Group

Im Stiefelfeld 1 · 56651 Niederzissen · Germany
Phone: +49(0)2636-9742-0
info@akro-plastic.com · akro-plastic.com

09/2026

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AKRO COMPOUNDS

Our Values for a Sustainable Future

Responsibility – safety begins with sustainability
We take responsibility for our actions – worldwide. With our new production facility in the United States and the expansion of our site in China, we strengthen regional value creation, reduce transportation distances, and promote local sourcing. Our ISCC PLUS certification, UL-certified materials, and commitment to the Science Based Targets initiative (SBTi) reflect our ambition to reduce emissions and operate with transparency.

Expertise – driving future-proof innovation
For more than 40 years, we have been developing high-performance plastic compounds that set global benchmarks. Our proprietary ICX® Technology ensures consistent batch quality across all production sites. Combining in-depth material expertise, state-of-the-art technologies, and global know-how, we deliver solutions that are safe, efficient, and future-proof.

Respect – for people, resources and the enviroment
Respect is at the core of how we work and collaborate. We invest in safe working conditions, fair partnerships, and the responsible use of resources. Through our foundation, we demonstrate that our commitment to social responsibility extends far beyond our business operations.

Progress – shaping the future together
Progress drives everything we do. With global production capabilities, high flexibility, and rapid development processes, we respond quickly to our customers' needs. We work closely with our partners to develop innovative material solutions that reduce environmental impact while meeting the highest standards of quality and performance.





Materials for Battery Busbars

Designed for demanding busbar applications, these halide-free engineering materials combine global availability with consistent quality and distinctive RAL 2003 coloring, making them ideal for housings, brackets, carriers, and over-moulded systems.

AKROLOY® PARA GF 35 1 FR orange (8039)

For highest thermal runaway resistance requirements

- Helps to meet the no thermal propagation requirement of China's GB 38031-2025
- High thermal and electrical insulation at 1,200 °C thanks to shielding technology
- Passes 6 cycles in the Torch & Grit Test at a component thickness of 3 mm
- Low smoke generation and low peak heat release
- CTI 600 and dielectric strength of 39 kV/mm
- Low CLTE values, including transverse to the fiber direction, providing excellent thermal shock resistance

AKROTEK® PK-VM GF 30 FR orange (8537)

Hydrolysis-resistant and flame-retardant Polyketone for direct coolant contact

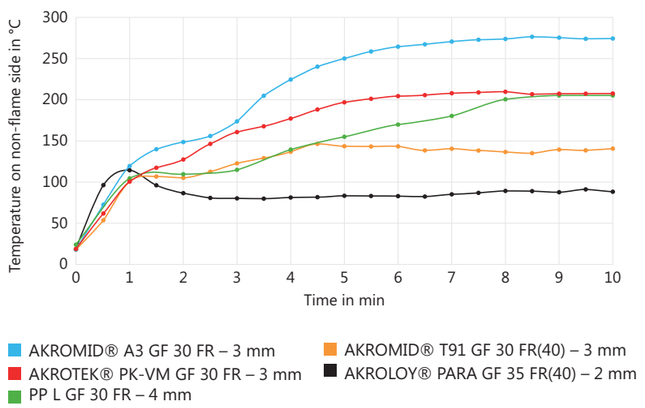
- High hydrolysis and chemical resistance
- Stable V-0 classification even after 1,000 h of coolant contact at 80 °C
- CTI 600 and dielectric strength of 45 kV/mm
- Improved electrical performance across a wide temperature range and under humid conditions

AKROMID® B25 GF 30 1 FR orange (9013)

High flowability and low processing corrosion

- High flow, flame-retardant PA6 with low processing corrosion
- CTI 600 and dielectric strength of 50 kV/mm
- High color stability under heat
- Excellent long-term electrical and thermal performance
- Optimized for low corrosion of injection molding machinery

Temperature increase on non-flame side of plates during testing time



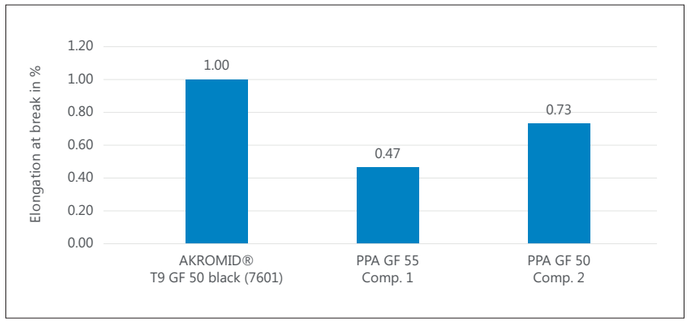
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Design of Busbars

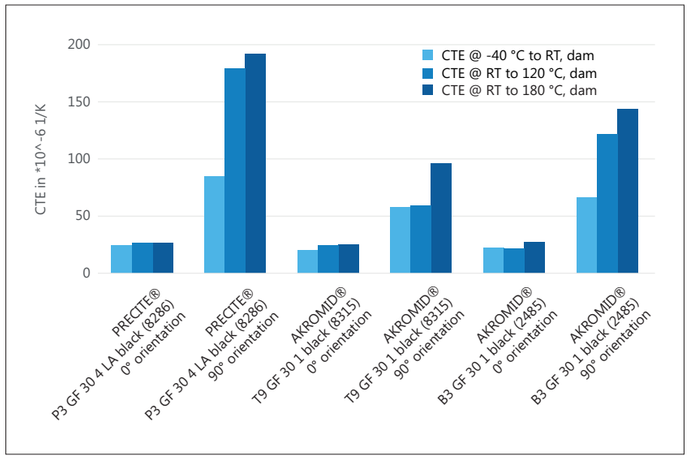
When designing overmolded busbars, it is essential to consider a few key factors. These include, for example, properties at the weld lines - as illustrated by the PPA GF 50 grades - since busbars are particularly prone to failure at weld lines during thermal shock testing. In this context, elongation at the weld line plays a more significant role than its strength.

Weld line properties



Additionally, cracks can occur transverse to the fiber orientation. This can be explained by the differing coefficients of expansion between the metal insert (copper = 16.5 × 10^{-6} 1/K) and the plastics, both in fiber direction and transverse to it; see the examples of AKROMID® T9 GF 30, AKROMID® B3 GF 30 and PRECITE® P3 GF 30 4.

Coefficient of thermal expansion in 0° and 90°

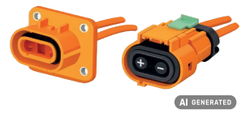


AKRO-PLASTIC is happy to provide support in the design and FEA of these components.

HV Connectors for E-Mobility in vibrant RAL 2003

We have developed a tailored portfolio of RAL 2003-colored compounds for HV connectors, combining:

- High color stability under thermal exposure
- High flowability
- Low processing corrosion



The compounds are available with or without flame retardancy.

AKROMID® B25 GF 30 1 FR orange (9013)

- High flow, halogen-free PA6
- UL-certified according to UL94 V-0 from 0.4 mm
- CTI 600 & STT 800
- Dielectric strength of 50 kV/mm
- Non-flame-retardant counterpart: AKROMID® B25 GF 30 1 orange (9089)

AKROMID® T91 GF 30 FR orange (8104)

- Halogen-free PA9T
- UL-certified according to UL94 V-0 from 0.25 mm
- CTI 600 & STT 900
- Excellent electrical properties across a wide temperature range and under humid conditions
- Non-flame-retardant counterpart: AKROMID® T91 GF 30 1 orange (9113)

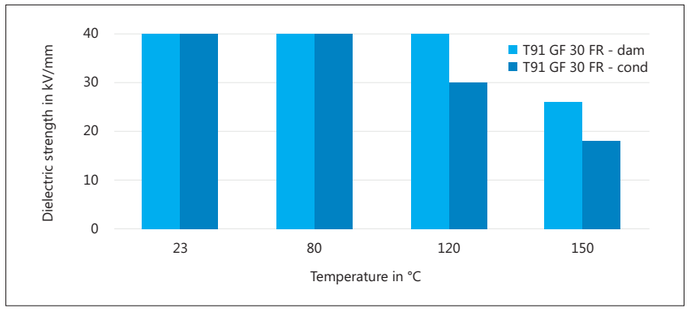
Connectors with highest dimensional stability

PRECITE® P3 GF 30 4 LA black (8286)

- CTI 600
- High hydrolysis resistance – retains 80 % of its performance after 3,000 h at 85 °C / 85 % r.h.
- Regulatory-safe formulation – GMA-free
- Exceptional ratio of tensile strength to elongation at break

AKROMID® T91 GF 30 FR - very high insulation properties

- Flame-retardant PA9T with very high insulation properties
- CTI of 600 V, even after 500 h @ 150 °C & 1,000 h @ 130 °C
- Dielectric strength of 40 kV/mm up to 120 °C operating temperature
- @ 150 °C still a value of 26 kV/mm dam and 18 kV/mm in fully conditioned state (70 °C, 62 % r.h., 500 h)



Connectors for E&E and Household Appliances

Halogen-Free, flame-retardant PA6 with maximum color freedom
AKROMID® B25 GF 30 1 FR is a high-performance flame-retardant compound ideal for snap-in connectors and wire-to-board connectors.

Advantages
- Fulfills IEC 60335 GWEPT
- UL94 V-0 starting at 0.4 mm – UL-certified for all colors
- CTI 600 – ideal for electrical applications
- Very high flowability for thin-walled components
- Complies with EN 45545-2 R21 HL3, R22/23/24 HL2
- UL-certified regrind content – up to 50 % (flakes)

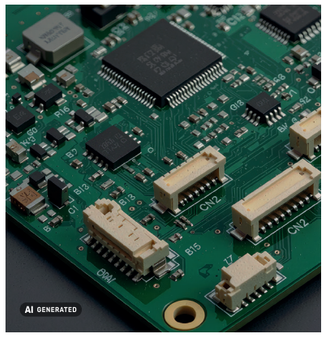


For maximum design flexibility, we offer dry blends in custom colors. This ensures you get exactly the shade your product needs – without losing UL certification.

You need a sustainable solution? AKROMID® NEXT B25 GF 30 1 FR, based on biomass-balanced flame retardants and polymers, reduces CO_2 emissions without requiring re-qualification, while maintaining certifications.

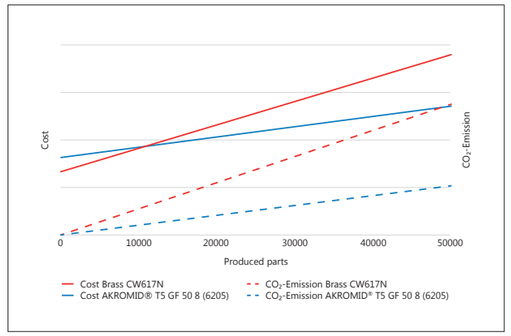
Halogen-free flame-retardant PA9T for SMT components
AKROMID® T91 GF 30 FR offers excellent reflow soldering resistance due to its exceptionally high flowability and low moisture absorption. It exhibits very low corrosivity compared to other halogen-free flame-retardant PPAs.

Advantages
- UL94 V-0 from 0.25 mm – UL certified for all colors
- IEC 60335 GWEPT
- Highest JEDEC MSL 1 (Level 1)
- CTI 600
- Complies with EN 45545-2 R22-24 HL3 – Public Transportation
- High flowability



Metal Replacement with High-Performance Plastics

The substitution of metals with high-performance plastic compounds (AKROMID® T, AKROTEK® PPS, AKROLOY® PARA & PA, or PRECITE® E) is one of the most effective ways in modern component optimization. Successful metal replacement does not simply copy the geometry but rather utilizes the design freedom of plastics. Even if larger wall thicknesses must be designed due to the lower material strength compared to metals (such as brass, aluminum, or zinc diecasting), the plastic part usually remains 50 to 80% lighter due to the lower density of the material.



Processing	Hot pressing + machining	Injection molding
Part weight	~ 110 g	~ 49 g
Material needed per part	~ 130 g	~ 49 g
Cycle time	~ 10 s	~ 35 s (2 Cavitys)
Wall thickness	~ 2 mm	~ 4 mm
Initial cost (mold)	~ EUR 40,000	~ EUR 49,000
Cost per part	~ EUR 2.43	~ EUR 1.59
Project size	50,000 pcs.	50,000 pcs.

This comparison shows that a T-fitting made of a high-performance polymer like AKROMID® T5 GF 50 8 (6205) is over 55 % lighter than the brass variant, despite requiring a doubling of the wall thickness to guarantee pressure resistance. While the brass part must be extensively machined after hot pressing, the PPA component – including all threads – is finished in a single, highly efficient injection molding step. As a result, the unit costs for a production run of 50,000 units are reduced so significantly that a project saving of approximately 35 % can be achieved.

At the same time, the carbon footprint of the component is reduced by about 60 %. Although the carbon footprint of the T5 material itself is at a similar level to that of brass, the more energy-efficient manufacturing process and the substantial weight savings combine to create this extreme difference.

Products	Key Properties
AKROMID® T5 GF 50 6 black (8000)	Excellent surfaces & performance at extrem temperatures
AKROMID® T9 GF 50 1 HU black (7601)	Best allround solution at extrem temperatures
AKROMID® T5 GF 50 6 ECO black (9065)	Sustainable PPA (25 % recycling content)
AKROLOY® PARA GF 50 HU black (8596)	Excellent surface & outstanding strength
AKROLOY® PARA ICF 40 black (6130)	Sustainability & excellent surface & outstanding strength
AKROTEK® PPS GF 40 black (8609)	Chemical resistance at high temperatures
AKROTEK® PPS CF 30 black (8612)	Chemical resistance at high temperatures & outstanding strength
PRECITE® E GF 50 black (7395)	Ultimate stability in properties
PRECITE® E ICF 30 black (7429)	Ultimate stability in properties & sustainability

The essential economic advantages lie in:

1. **The functional integration:** While metal components almost always require extensive machining after casting, pressing, or forging (e.g. through CNC milling, thread cutting, or deburring), complex plastic geometries are produced directly from the mold (as-molded) in a single, fully automated process step. Furthermore, attachments such as eyelets or taps can be integrated in the same process step, thereby combining several components into one.
2. **The significant material cost advantage:** Even at the same price per kg material costs usually decrease substantially when switching from metal to plastic. This still applies even when wall thickness and thus part volume has to increase to meet mechanical needs.



Additive Manufacturing

Large Format Additive Manufacturing has established itself as a genuine production alternative – from molds and tooling to process aids and industrial applications. Directly printing high-performance granulate allows for complex, functional geometries with consistent material properties. Production on demand, close to where parts are needed, shortens supply chains and increases reliability. AKRO-PLASTIC supports your projects with process expertise and material data of our dedicated AM portfolio.

AKROTEK® AM compounds are well suited for additive manufacturing due to their wide processing window, easy printability, and excellent milling properties. Their low and linear thermal expansion helps to minimize warpage and supports dimensionally stable parts, while service temperatures of up to 140 °C allow a broad range of applications. This makes them a strong choice for multi-purpose molds, industrial and art installations, and customized covers and housings.

AKROTEK® PETG GF 30 AM ECO natural (9107)
Reused PETG colorable with masterbatch
AKROTEK® ABS ICF 20 AM black (8722)
Medium temperature molds
AKROTEK® ASA ICF 20 AM black (8723)
Inherently UV-resistant
AKROTEK® PC ICF 20 AM ECO black (9159)
Reused PC suitable for autoclave tooling

Engineering compounds deliver excellent properties for additive manufacturing in demanding technical applications. AKRO-PLASTIC AM compounds combine high heat resistance, strong chemical resistance, and excellent mechanical performance with optimal processing characteristics and dimensional accuracy. They are a strong choice for automotive, industrial, maritime, and versatile multipurpose applications and thin wall / high speed processes.

AKROLEN® NEXT PP ICF 20 AM black (8759BMBCI)
Carbon footprint 0.2 kgCO_2eq/kg (incl. -2.9 kgCO_2eq/kg biogenic carbon uptake according to DIN EN ISO 14067:2018)
AKROLEN® PP ICF 30 AM black (8344)
Suitable for applications involving contact with water
AKROMID® NEXT U28 ICF 40 1 black (8238)
Low water uptake, lightweight semi-structural parts
AKROMID® B3 GF 30 AM natural (8962)
Colorable with masterbatch, structural design applications
AKROMID® B3 ICF 30 AM black (7451)
Lightweight structural parts







Public Transportation

From seat shells, armrests and headrests to luggage racks, tables, covers and interior components – plastics enable a wide range of applications in modern public transportation. AKRO-PLASTIC develops high-performance compounds that combine design freedom, low weight and passenger comfort with demanding fire safety requirements.

Our materials are tailored to applications in buses, trains and other public transport systems, helping to create safe, durable and visually appealing interiors while contributing to more lightweight and efficient mobility.

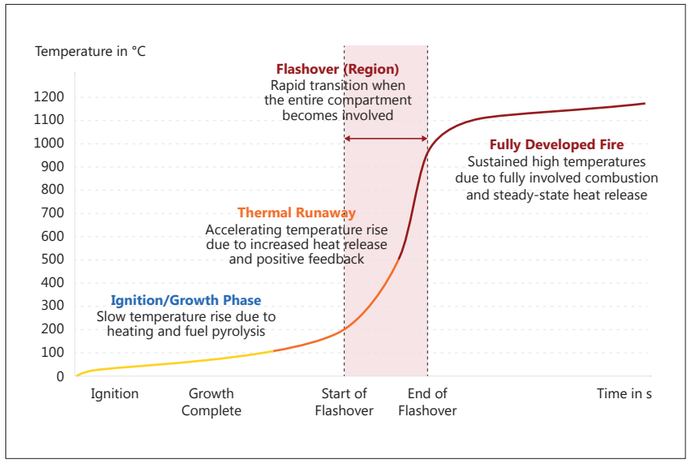
Our material solutions for seat shells and related components combine excellent surface quality, flame retardancy and design flexibility. For connectors, circuit breakers, contactors and other small E&E components in rail applications, our materials combine excellent flowability and flame retardancy with reliable long-term electrical performance.

AKROMID® C28 GF 25 FRT
- Halogen-free flame-retardant PA6-blend
- Classified according to EN 45545-2 R1/6/7
- NFPA 130 certified
- Excellent surface quality
- Available in a variety of colors

AKROMID® B25 GF 30 1 FR
- Halogen-free flame-retardant, highflow PA6
- Classified according to EN 45545-2 R21/22/24/26 and UL-certified
- Excellent surface quality
- High flowability for efficient processing
- Available as fully compounded material or dry blend

AKROMID® T91 GF 30 FR
- Classified according to EN 45545-2 R22/23/24/26 and UL-certified
- High flowability
- Suitable for reflow soldering

Temperature development during fire and flashover



For bus applications, additional material solutions are available according to ECE R118 R6/7/8.

Antistatic Solutions

As the electromobility market grows, so does the demand for materials, especially since modern electric vehicles are equipped with sensitive electronic systems that require reliable protection against uncontrolled electrostatic discharge (ESD). Antistatic and conductive plastics help to prevent the build-up of static electricity, thereby reducing the risk of ESD-related damage to electronic components.

ESD plastics are used in many other areas beyond automotive engineering: In medical technology, for instance, they safeguard sensitive equipment and components from harmful electrostatic discharges. In industrial applications, such as production facilities, tools or conveyor systems, they enhance process reliability by preventing unwanted static build-up and reducing the rejection rate. ESD plastics are also used to transport and store sensitive electronic components, as well as for special packaging, to provide effective protection against electrostatic discharge.

To meet these requirements, AKRO-PLASTIC GmbH has developed a versatile portfolio of antistatic/conductive compounds. These properties are achieved using various methods, including the use of carbon fibers, some of which are sourced from recycling processes.

AKRO-PLASTIC impressively demonstrates how innovative combinations of glass and carbon fibers with high-performance polymers can result in sustainable materials that meet the demanding requirements of modern electromobility.

AKROMID® A3 CGM 10/20 4 black (5870)
- 10 % carbon fiber and 20 % glass fiber reinforced PA
- High stiffness and strength
- Hydrolysis resistant
- Electrically conductive
- Heat stabilized

AKROMID® A3 ICF 20 black (5102)
- 20 % carbon fiber reinforced PA6.6
- High stiffness and flexural strength
- Electrically conductive

AKROMID® A3 CF 30 5 black (7488)
- 30 % carbon fiber reinforced PA6.6
- Exceptional stiffness and flexural strength
- Electrically conductive
- High heat stabilized
- Elevated mechanical properties
- Good sliding properties

AKROMID® B3 ICF 20 grey (9063)
- 20 % carbon fiber reinforced PA6
- Medium stiffness and flexural strength
- Electrically conductive

AKROMID® B3 CGM 15/20 1 LA black (8058)
- 15 % carbon fiber and 20 % glass fiber reinforced PA6
- High stiffness and strength
- Electrically conductive
- Good laser markability

AKROMID® A3 ICF 30 5 black (6495)
- 30 % carbon fiber reinforced PA6.6
- Exceptional stiffness and flexural strength
- Electrically conductive, high heat stabilized

PRECITE® E ICF 30 black (7429)
- 30 % recycled carbon fiber reinforced PET
- Very high strength
- Improved surface
- Good tribological properties
- Sustainable





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Post-Consumer Recycled Portfolio

With our PCR portfolio, we are taking another step toward to support circularity in compounds: driven by our technical expertise, these compounds already meet the recycling rates mandated by the upcoming End-of-Life Vehicles (ELV) Regulation – reflecting our deep commitment to the responsible use of resources.

PA6 PCR – AKROMID® B3 GF 30 ECO black (9172)
Reliable performance based on a future-proof raw material source

Key benefits
- 30 % PCR content (according to DIN EN ISO 14021:2021)
- Meets the recycling quota requirements of the upcoming ELV regulation
- Standard portfolio with 15 %, 30 % and 35 % glass fiber reinforcement
- Continuously available raw material source with high-volume supply
- Customized formulation development possible
- 38 % reduced pPCF in comparison to the fossil version AKROMID® B3 GF 30 1 black (2485) (according to DIN EN ISO 14067:2018)
- Good surface quality
- Easy laser marking
- Available in black

PA6 + rPP Blend – AKROMID® B3 GF 30 1 L ECO black (8967)
Multiple CO_2 reduction benefits through PCR content and reduced material density

Key benefits
- 20 % PCR content (according to DIN EN ISO 14021:2021)
- Meets the recycling quota requirements of the upcoming ELV regulation
- Standard portfolio with 15 % and 30 % glass fiber reinforcement, as well as unreinforced grades
- Continuously available raw material source
- Reduced density
- 15 % reduced pPCF in comparison to the fossil version AKROMID® B3 GF 30 1 L schwarz (4365) (according to DIN EN ISO 14067:2018)
- Excellent dimensional stability
- Low moisture absorption
- Available in black

PBT + rPET Blend – PRECITE® K GF 30 ECO black (8269)
Drop-in solution combining PBT-GF performance with excellent surface quality and maximum design freedom through optimized flowability.

Key benefits
- 30 % PCR content (according to DIN EN ISO 14021:2021)
- Meets the recycling quota requirements of the upcoming ELV regulation
- Continuously available raw material source
- 22 % reduced pPCF in comparison to the fossil version PRECITE® K GF 30 black (7249) (according to DIN EN ISO 14067:2018)
- Excellent dimensional stability
- High stiffness and strength
- Very good surface quality
- Also available as a hydrolysis-resistant, GMA-free grade with CTI 600 and laser marking: PRECITE® K GF 30 4 LA ECO black (8699)



AKRO World of Values

AKRO employees across all departments and hierarchical levels have come together to reflect on what defines AKRO today, what made us strong in the past, and what should be our future direction.

One of the results of these workshops is the AKRO World of Values. It is a visual translation of our values and guiding principles. Through many small scenes, it illustrates both our identity and our ambitions and is helping us to build a unified vision for AKRO's future.

Since we live the same values both inside and outside our company, we are proud to share our AKRO World of Value with you!

Scan this QR code to learn more about our World of Values

