

# Product portfolio – Super Engineering Plastics

Product	Properties <small>*detailed information available</small>	Applications (examples)	Producer	Service Eckskclusive GmbH
<b>GLAMIDE® GF-NYLON</b> (PA6, PA66, MXD6 Nylon, 6T Nylon)	Metal replacement and lightweight construction; filled up to 70% with minerals and / or glass fibers; modulus of elasticity 28 GPa; flexural strength 520 MPa; water absorption 0.6%; impact strength 38 kJ/m <sup>2</sup> .	Metal replacement in the automotive industry, e.g. exterior mirror bases, ventilation nozzles, consoles.	Toyobo Co., LTD.	Materials consulting and Sales via Sumitomo Corporation Europe Limited
<b>VYLOAMIDE®</b> (PA11.6T + 11.10T) + <b>VYLOPET®</b> (PET, PBT)	Metal replacement and lightweight construction; melting point 315°C; dimensional stability + low water absorption, especially for technical parts.  Reinforced PET or PBT; high heat resistance, high stiffness and high surface quality.	Air vents, parts of car lamps, parts of air conditioning systems and parts of household appliances.	Toyobo Co., LTD.	Materials consulting and Sales via Sumitomo Corporation Europe Limited
<b>PELPRENE®</b> (TPE)	Tensile strength 42 MPa; temperature resistant between -40 and + 180°C; elongation 700%; tear strength 140 kN/m; abrasion, oil and grease resistance; two-color molding and light stability.	Bellows, tubes, gears, high pressure hoses, exterior and engine parts, air pressure and intake hoses for the automotive industry.	Toyobo Co., LTD.	Materials consulting and Sales via Sumitomo Corporation Europe Limited
<b>SUMIKAEXCEL®</b> (PES)	Long-term heat resistance 180 - 200°C; creep and impact strength; dimensional accuracy; hot water resistance (180°C); low outgassing; flame resistance V-0@ 0.3 mmt.	Oil pans, gearboxes, turbochargers, oil control valves, cooling couplings, EGR valve motors, lamp housings, connectors, relays, sensors, covers for metals.	Sumitomo Chemicals Co., LTD.	Materials consulting and Sales via Sumitomo Corporation Europe Limited
<b>SUMIKASUPER®</b> (LCP)	Long term heat resistance from 220 - 260°C; Tlc 320 - 400°C; soldering and chemical resistance; high tensile strength; high modulus of elasticity; good damping properties; high flowability; low flammability; flame resistance V-0@ 0.1 mmt.	Oil lines, EGR valve actuators, connectors, relays, lamp sockets, bobbins, heat resistant shells.	Sumitomo Chemicals Co., LTD.	Materials consulting and Sales via Sumitomo Corporation Europe Limited
<b>BADAMID®</b> (PA9T)	Low water absorption; high dimensional stability; possibility of product downsizing; resistance to chemicals and hydrolysis; high heat resistance; long-term temperature resistance, fuel barrier suitability.	EGR valve motors, gearboxes, headlight actuators, protective tube for wiring harness, lock nut, quick connectors.	Bada AG	Materials consulting and Sales via Sumitomo Corporation Europe Limited

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<b>BADAMID®</b> (PA6, PA66, PA66/6, PA6/6T, PPA, PA9T, PA610, PA612, PA12)	High stiffness and thermal resistance, good toughness at low temperatures, favorable friction and wear behavior.	Machine elements, components in the electrical, electronics and automotive industrie, parts for construction, furniture production, leisure applications. Technical parts such as bearings, gears, rollers, screws, gaskets, linings, housings, pump parts, bobbins, carburetor parts, car pedals, intake manifolds for internal combustion engines, fans, parts for household appliances and consumer goods, extruded semi-finished products such as rods, tubes, hoses, sheets, cable sheathing, ski boots, shoe soles, membranes, gaskets, blown and flat films, packaging, blow molded parts, fibers, bristles, fishing lines, glass mats and reinforced sheets (GMT), CF, AF, GF prepregs.	Bada AG	Materials consulting and commercial agency
<b>BADATECH HT®</b> (PEEK + other specialties)	The Badatech HT® product group represents the top of the plastic pyramid and combines all common high-temperature polymers in one product group. This also includes the semi-crystalline thermoplastic PEEK. Continuous operating temperatures of up to 250 - 260°C. Outstanding properties in wear resistance, thermal conductivity, electrical conductivity, laser markability, lightweight construction and detectability.	<p><u>Mechanical engineering:</u> valves and valve seats, pipes, thrust washers, seals, gears, pumps, sliding guides for ovens, filling pipes, conveyor belt elements, slide bearings, coatings for tools (to produce golf ball cores and shoe soles), coatings for cookware (rice cookers, frying pans), coatings of conveyor belts, adhesive tapes.</p> <p><u>Electrical industry:</u> cable insulation, sensor housings, carriers and probes, semiconductor manufacturing applications (e.g. wafer carriers, CMP rings and test sockets), thermoformed foils for loudspeaker cones.</p> <p><u>Medical technology:</u> Instruments for minimally invasive surgery (e.g. bipolar pliers, instrument handles) and for dental instruments, distance bushings, compressor seals, compressor plates, gear wheels for gear pumps, fan wheels and dental fixation aids. Special grades with corresponding approvals are used as materials for permanent implants or as screws for fixation.</p> <p><u>Transport:</u> Wheel caps for aircraft, cable ties, cable holders, fuel tank caps, fuel tank vents, door handles, retaining brackets for wires and cables, pipes, insulating foils, tappets, pistons, valve seats, guide bushes, wing caps, blades, rotors, thrust washers, cable drums, fuel lines, bearing bushes, lamp sockets, worm wheels, friction bearings, gear wheels in air conditioning systems, in seat adjusters and in window lifters, sealing and sliding elements and actuators.</p>	Bada AG	Materials consulting and commercial agency

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<b>BADAFLEX®</b> (TPE-S, TPU, TPE-E)	Badaflex® products are thermoplastic elastomers. They combine the excellent processing properties of thermoplastics with the elastomeric properties of rubber. Particularly noteworthy are properties such as pleasant haptics, high toughness, elasticity and low-temperature flexibility (down to -50 °C) as well as very good resistance to ozone and weathering. Hardness from Shore 10A to 60D is available. Heat resistant, flame retardant and odor reduced compounds as well as modifications regarding surface, demolding and flow properties can also be adjusted according to customer requirements. The strength of Badaflex® is for grades for 2K processing.	Tubes and profiles, medical articles, injection-molded soles in the shoe industry, cable insulation and sheathing compounds, sound insulation elements in the motor vehicle engine compartment, bellows, joint seals, damping elements, impact modifier for polar thermoplastics and weather-resistant plasticizer for PVC	Bada AG	Materials consulting and commercial agency
<b>BADAPRENE®</b> (TPV of EPDM/PP-Blends)	The product range of thermoplastic elastomers is rounded off with partially crosslinked EPDM/PP blends. Badaprene® offers high chemical resistance, high resistance to weathering, UV and ozone and good mechanical properties. Badaprene® can be varied in a variety of properties, such as Shore hardness (from 35A to 65D), processing properties, surface finish and color.	Automotive, mechanical engineering, electronics, construction and leisure. Door and window seals and air intake pipes in motor vehicles.	Bada AG	Materials consulting and commercial agency
<b>BADAPROP®</b> (PP)	The Badaprop® product group offers the right PP for almost every application. Whether homo- or copolymer, individually colored, flow-optimized, provided with different reinforcing materials or impact modified - Badaprop® can be perfectly adjusted to your requirements.	Ventilation systems, dashboards, consoles, headlight and taillight housings. Food packaging, tool and travel cases, transport and stacking boxes, housing and functional parts, film hinges for household appliances such as coffee machines, toasters, fan heaters, dishwashers, tumble dryers and washing machines. Filled, reinforced grades for body parts, coolant expansion tank, lawnmowers, power tools, parts for submersible pumps, fan wheels, electrical installations and garden furniture.	Bada AG	Materials consulting and commercial agency

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Product	Properties <small>*detailed information available</small>	Applications (examples)	Producer	Service Eckclusive GmbH
<b>BADADUR®</b> (PBT)	In addition to its outstanding mechanical properties, the Badadur® product group offers highly reliable resistance, such as its excellent heat distortion temperature and chemical resistance, as well as its proven behavior against weathering and heat aging. The low water absorption of the compounds guarantees high dimensional stability and low influence of moisture during further processing of the finished parts. A wide range of variations are available for the composition and properties of Badadur®.	Slide bearings, roller bearings, valve parts, screws, plug connectors, pump housings and wheels, parts for household appliances such as coffee machines, egg boiler, toasters, hair dryers, vacuum cleaners and cooking appliances.	Bada AG	Materials consulting and commercial agency
<b>BADALAC®</b> (ABS, ASA + Blends)	The Badalac® product group has already been successfully established with many variations. Bada AG produces specialties such as heat-resistant grades with increased Vicat-softening temperature, improved flow properties, increased impact strength, glass fiber reinforcements and flame-retardant grades. As with all Bada products, Bada AG produces colored ABS grades according to customer requirements even in small batches. Also several blends based on ABS can be realized, e.g. ABS/PA and ABS/PC blends.	<p>Insulating foils and insulating boards, molded parts and housings for radios, televisions, notebooks, telephones, computers, printers, power tools, optical equipment, household and garden appliances, drawing instruments, light screens, toys, interior linings for refrigerators and freezers.</p> <p><u>Automotive:</u> trim elements, instrument panels, large cockpit modules, ventilation systems, interior roof linings, battery housings.</p> <p><u>Weathering and UV-resistant grades:</u> Spoilers, radiator grilles, hubcaps, exterior parts for tractors, trucks, motorcycles, caravans and boat hulls as well as mudguards and garden furniture.</p>	Bada AG	Materials consulting and commercial agency

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<b>BADAFORM®</b> (POM)	Badaform® is the product group of thermoplastic construction materials based on the copolymer polyoxymethylene. The product group includes a wide range of engineering plastics with first-class and versatile properties, which are specially designed for use in demanding and highly stressed components. Badaform® combines a high level of mechanical strength with excellent suspension properties; it shows favorable sliding friction behavior and high dimensional stability when exposed to high mechanical loads and in contact with many chemicals and fuels as well as at elevated temperatures.	Due to its versatile properties, Badaform® is suitable for applications in vehicle construction, medical technology, household and leisure, for gears and gear rings, switches, levers, bearings, screws, coils, functional parts in the seat belt area, for airbags, window lift motors and window regulator mountings, door lock housings and electrical mechanisms, door handles, loudspeaker grilles, car seat parts and headrests, switches, levers, push buttons and rotary knobs in the dashboard area, in steering and control systems for connecting links, ball shells, linkages, sensor components, adjustment elements, e.g. for air conditioning or sliding roof baffles, window and door fittings, furniture fittings and drawer rollers, fuel pumps and fuel dispensers, flanges, filter housings, surge pots, level indicators, tank caps, tank ventilation systems (rollover valves) and installations for diesel tanks.	Bada AG	Materials consulting and commercial agency
<b>BADALON®</b> (PC)	Badalon® is a polycarbonate-based thermoplastic. It is characterized by an excellent, almost glass-like transparency in combination with high impact strength. Due to its amorphous character, Badalon® shows very low shrinkage values, which results in high dimensional stability and such good dimensional stability on the component that very tight tolerances can be maintained. Transparent coloring in any shade is possible as well as opaque colored material grades. In addition to the mechanical, optical and dimensional advantages, Badalon® is a very good electrical insulator.	Molded parts and housings for the electrical engineering / electronics industry (cover boxes and discs for switchgear and measuring devices and distribution stations), optical data storage devices (CD, DVD, Blu-ray Discs), glazing for stadium roofs and greenhouses made of extruded material with a UV protection layer, coextruded sheets, eyeglass lenses and optical lenses, drinking water containers up to 20 l capacity, molded parts made scratch-resistant by siloxane coatings for cover windows for car headlights and car glazing (side and rear sections, roof modules, black covers, lamp housings).	Bada AG	Materials consulting and commercial agency

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<b>BADATRON®</b> (PPS)	<p>The Badatron® product group comprises high-performance compounds based on polyphenylene sulfide. Due to its very high heat resistance beyond 250°C and its excellent resistance to acids and alkalis, glass fiber reinforced Badatron® is suitable for components, which get in contact with aggressive media and are subject to high thermal stress. Thanks to its high dimensional stability, Badatron® is also ideally suited for all precision components. Filler contents of up to 50% guarantee maximum rigidity and strength and make Badatron® a weight-saving alternative to metal in many applications. Badatron® is inherently flame retardant and achieves flame class V-0 according to UL94 without the addition of flame retardants.</p>	<p>Micro-precision injection molding, encapsulation of chips and other electronic components, medical devices (due to their good sterilizability), lamp and headlight sockets, pump housings and other parts, structural foam parts, foils, CF, AF, GF prepregs. Due to its high heat and chemical resistance, Badatron® is suitable for use in high-performance composites where the reinforcing fibers (mainly glass, carbon or aramid fibers) are in continuous form. Various techniques have been developed for adhesion promotion and impregnation.</p>	Bada AG	Materials consulting and commercial agency

# Product portfolio - rubber polymers, chemicals

Product	Properties <small>*detailed information available</small>	Applications (examples)	Producer	Service Ecksklusiv GmbH
<b>RACRESTER™</b> (ACM)	Heat resistance 170 - 190°C; resistance to hot oil, water, hot air, lubricants, greases; hardness 40 - 90 Shore A; tensile strength 5 - 17 MPa; resistance at low temperatures down to -40°C.	Air intake hoses, intercooler hoses, seals, power steering hoses, turbocharger hoses.	OSAKA SODA CO., LTD.	Materials consulting and Sales via Sumitomo Corporation Europe Limited
<b>KELIREN®</b> (CPE)	High resistance to ozone, weathering and hot air up to 150°C; oil resistance; to produce flame-retardant elastomer components	Oil-resistant hoses, cable sheathing.	Hangzhou Keli Chemicals Co., LTD.	Materials consulting and distribution
<b>KELIREN®</b> (TAC – liquid and in powder form)	Improvement of the strength, stiffness and heat resistance of plastics; also suitable for the cable and rubber industry as vulcanization accelerator for highly saturated rubber and for increasing the degree of vulcanization	Additive for the thermoplastic and elastomer industry.	Hangzhou Keli Chemicals Co., LTD.	Materials consulting and distribution
<b>TOA ACRON AR®</b> (Polyacrylate resins)	High polymerization density, good adhesion; excellent heat, aging and weathering resistance; no odor when dissolved in various solvents; can be applied to many types of substrate surfaces; low cold flow; can react with crosslinker to form three-dimensional structures; transparent and colorless film; no need to prepare the mixer before use	adhesive tapes.	TOA Resin Corporation	Materials consulting and Sales via Sumitomo Corporation Europe Limited