World Class Sealing Solutions for Industry
We are Jäger

Excellence
Proximity
Responsiveness

USA

Europe

Asia
We grew up with rubber

Since 1942 application-oriented designs, material-oriented construction and system related development have been key for the Jäger Group’s continued success. Our competence and efficiency continuously exceed the customers’ demands. Our success is based on continuous product and process innovation, friendly, competent service and zero-defect philosophy.

As a 3rd generation family owned and operated German business, we operate globally as a qualified partner in the fields of automotive, environmental and agricultural industry as well as in transportation, machine, plant engineering and oil exploration. We employ over 1,100 associates in more than 20 sites in the USA, Europe and China with the same corporate goals.

Since 2010 Jäger Unitek in La Porte, Indiana has supported the US automotive segment of our business, with focus on growth in the non-automotive industry. At Jaeger-Unitek we blend German and Japanese production technology into pragmatic American craftsmanship providing state of the art engineered solutions. Based on strong roots in the marketplace, combining 80 years of American and 70 years of German rubber expertise, Jäger yields strong relationships with prospects and customers alike, to strengthen and build partnerships throughout North America.

Our Philosophy

Thinking across departments and corporate boundaries as well as generating competitive advantages for one’s own company, customers and suppliers. Due to these guiding principles the Jaeger Group of Companies is a professional partner in all branches of machine and plant engineering.

Confidence in Cooperation

Successful customer relationships are based on trust. For us, this means reliability in our promises and actions, fairness in equal partnership and the trustworthiness of the Jäger entrepreneur family.

Reliability in Partnership

Joint work with the most various suppliers guarantees competitive advantages for our customers.

Understanding in Problem Solution

By the combination of the most different materials and the integration of various functions in a system component we guarantee our customers a lasting advantage in competition.
Engineering Passion

Reduced Complexity
Minimized Weight
Optimized Costs

Providing Solutions

Starting with customer specific developments leading us to comprehensive logistic concepts – Jäger-Unitek provides a single source solution. Our core competence is reduction of weight by substituting metal with plastic and integrating multiple functions into a single component. We accomplish this by creating components from rubber and plastic materials. Our strict project management synchronizes product and process design to exceed customer expectations. Always in close cooperation with our customers, the mutually designed solutions are fit for customer function and our ability to process. Our profound knowledge in specific elastomer and thermoplastic materials, with functional and process optimized designs, eliminate recurring mistakes and reduce development costs. Limited only by imagination; quantities, tolerances and pricing requirements are met through a broad variety of fabrication processes and material combinations. Our global production network provides local support in North America, Europe and China based on our zero defect philosophy.

Simultaneous Product & Process Design

Our engineers supply you with real time feedback through 2D and 3D designs using FEM-simulators and Rapid Prototyping as tools to support the design evaluation. Tooling concepts are created during the product development stages. Our material expertise is solidified through hundreds of different material formulations designed for vast applications and process technologies. Since we are the pioneer in rubber to plastic direct bonding along with the ability to provide multiple material plastic extrusions, we have specifically designed materials to allow high extrusion speed and short cure times. Through serial production tooling, we create prototypes and first article components to ensure the initial testing can be completed with the highest quality parts available. With this in mind, we can influence and optimize certain components in every single stage of the production; while our project management team efficiently interconnects the project with customers and suppliers.
Formulated for Functional Safety

We translate the specific requirements of our customers into custom tailored material formulas. Many of our compounds have been tested and released in accordance with material standards of the major automotive OEM’s. In our highly specialized lab we perform mechanical, dynamic, vulcanizing and processing tests. For R&D tasks exceeding this scope we co-operate closely with the German Institute for Rubber Technology (DIK) in Hanover, Germany and Akron Rubber Labs in the USA.

Manufacturing Excellence

Process stability and repeatability are the base for zero defects. State of the art equipment must be operated by skilled, motivated people dedicated to excel customer expectations. Educated, highly motivated and long term experienced people, working with new equipment in bright and clean buildings in combination with fail-safe working routines make the difference. Our engineers are never satisfied, constant improvements regarding quality, costs and time can be seen in all companies of the Jaeger Group.
Expertise in Rubber and Plastics

Application

Our products provide 3 basic functions:

- **Sealing:**
  Bridge gaps as static or dynamic sealing assemblies against gases and liquids and other elements
- **Mounting:**
  Attachment of at least one component to ease the assembly process
- **Longevity:**
  Withstand dynamic friction/abrasion/temperature/fluids/UV

Most of our products serve as:

- Closeout – Gap Seals
- Door and Frame Seals – Glass Channel Seals – Window Seals
- Vibration Controls – Cable Guides – Body Panel Seals
- Garnishes – Noise Reducers – Spacers

Our custom-made geometries are complemented by a large variety of standard dimensions, therefore we supply most vulcanized rubber and thermoplastic profiles available in the marketplace today.

Process

Technology compliments the application: Different applications demand different materials which again require different production processes. The suited process and material depends on the specified application.

To achieve these features we extrude:

- Solid Thermoset Rubber
- Sponge Rubber
- Single, Dual, Tri and Quad Material thermoplastic compounds

We compliment our extrusions with secondary processes such as laminating, punching, corner joining and slip coating.
Materials

Thermoset (vulcanized) rubber extrusion compounds are mainly based on NR, EPDM, CR and HNBR.

Thermoplastic Elastomers (TPE, TPO, TPV) are a class of copolymers or a physical mix of polymers with both thermoplastic and elastomeric properties. These elastic materials can be co-extruded with hard plastic materials such as PP, PA, Nylon and PVC.

All our materials are especially designed to comply with our specific extrusion processes:

- Heat aging resistance/temperature range/Flame retardant
- Stiffness/hardness
- Flex fatigue resistance/Abrasion resistance/Stress relaxation
- UV resistance/ozone resistance/hydrocarbon & polar fluid resistance

Benefits

Our unique 4K thermoplastic process allows 4 materials to be blended into one profile. The different materials provide specific benefits to our customers compared with ordinary rubber profiles:

Sealing characteristics:
- Superior cold temperature performance and freeze characteristics
- Superior tear/tensile strength

Longlivety:
- High abrasion resistance/low friction coefficient by co extruded surface material instead of wet sprayed slip coating

Mounting/Assembly:
- Adhesives tapes replaced by “Clip on” hard component
- Flexible PP core replaces metal carrier to prevent corrosion

Recyclability:
- Complete component recyclability
Value Added Operations

Customized Individual Solutions

Application

We at Jäger-Unitek provide the most economical and technologically sound solution to integrate profiles and seals into our customers’ assemblies. Whether it is through lamination of adhesive tapes, insert molding of end pieces or simply assembly, we can eliminate the cost at assembly.

Static applications require firm geometrical positioning until the matching surfaces are mated. Easy mechanical locking features such as grooves and channels as well as typical adhesives throughout the assembly process are sufficient.

Dynamic applications require a permanent fastening mechanism. The applied shear force, temperature and elements will determine the fastening principle. Mechanical, chemical or physical attachments are best suited for these applications.

Process

Depending on the application, the material and/or the complexity of the profile; our processes provide a wide range of secondary operations which can be included within the extrusion process:

- Cold applied mounting aids
- Heat activated acrylic foam bonding systems including plasma treatment
- Chemical primer based bonding systems
- Spray and/or hand applied coating
- Cut to length/kiss cutting/punching

Offline secondary operations are required when the extrusion speed exceeds the process time or complex geometrical features have to be added to the profile:

- Thermoforming of contour geometries formed to profile extrusions
- Corner Joints/end caps: extruded profiles can be joined together with variable three dimensional geometries/molded parts
- Insert injection molding
- Punching for complex contours
Materials

Our adhesive systems provide permanent bonding or assembly easement with some of the strongest and most reliable attachment tapes on the market. All tapes are designed and approved according to OEM’s specifications. Acrylic foam core tapes provide a balance of conformability and strength with core properties that allow the tape to elongate and relax when put under load, minimizing the stress on the adhesive bond line.

For injection molded corner joints and end caps we use the same thermoset and thermoplastic materials as in the extrusion process.

Benefits

Adhesive tapes allow great design flexibility and provide an excellent alternative to cumbersome liquid adhesives and mechanical fasteners, offering advantages such as reduced assembly time and tooling, lighter weight, and low-profile original equipment appearance for installed parts.

- Continuous seal with no gaps, no water or dust intrusion and reduced noise
- No concern for loosening of mechanical fasteners and attached parts over time
- No rust from drilling into sheet metal and from screws, rivets or clips
- No liquid adhesives

For easy handling during assembly process, customized handling devices, such as pull tabs can be applied.
Molded Parts

Pioneer in Rubber to Plastic Direct Bondings

Application

Based on 70 years of rubber expertise we have constantly refined the rubber molding process in combination with metal, plastics and even ceramics. As material and process specialists we have created engineering solutions for:

**Electronics:**
Plastic reinforced seals minimize designed space

**Electro-mechanics:**
Plastic covers integrate multiple seals and pressure expansion membranes

**Fuel management:**
Spring-loaded seals with metal washer replaced by rubber/plastic seals

**Air intake:**
Butterfly throttle seals with integrated Teflon® lubricated bearings

**Water cooling:**
Snap on rubber/plastics connectors

Process

Metal, plastic and ceramics can be bonded by mechanical interlock or chemical bonding agents to most rubber compounds. These processes are labor/cost intensive and environmentally volatile.

In 1994 Jäger pioneered the rubber to plastic direct injection molding process. This technology is available in La Porte, Indiana; serving the North American marketplace.
Material

Our proprietary plastic resin and rubber compounds are specially formulated to form a direct bond without any primer and adhesives. Our specific mold design and the molding process parameters complement our materials to achieve bonding forces between rubber and plastic higher than the structural strength of the rubber matrix.

Multiple material combinations are available for various applications:

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<th>Plastic</th>
<th>Elastomer</th>
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Benefits

Specific rubber and plastic materials:
- Rubber is more cost effective than high performance TPE’s
- Chemical resistance of rubber is better than TPE
- Better performance with rubber versus TPE where heat resistance is concerned

Functional safety:
- Stable and reliable parts
- Reduce leaking potential by over molded seals
- Prevent loss of parts in subassemblies by part bonding

Cost savings:
- Reduced assembly costs
- Integrated design lowers sourcing and handling costs
- Reduced quality costs by higher assembly process stability
Markets in Focus

Innovator for Market Niches

Automotive:

Window & roof
- Panorama roof seals and moldings
- Cable casings
- B- & C-Pillar weatherstrips
- Wiper blades
- Spacers

Body & door
- Window lift components
- Bellows
- Body seals
- Close Outs
- Dampening
- Isolators

Seats
- Dampers & cushion components

Under the hood
- Sealing systems for ECU's
- Air intake
- Fuel management

General Transportation:

Recreational Vehicles
- Slide Out seals
- Body seals
- Window seals
- Door Seals

Trucks/Construction equipment
- Cabin seals
- Shock mounts
- Vibration control
Environmental

Wind power generation
- Sealing solutions for nacelles
- Variable blade control seals
- Hose lines for vacuum resin infusion

Solar
- Panel seals and mounting devices
- Connectors for algae growth reactors

Waste water treatment
- Aeration membranes

...and solutions for many other markets:
- Heating, Ventilation and Air conditioning
- Agricultural harvesting machinery
- Electronic engineering
- Machine tool industry
Within a day’s drive, we can reach all our customers from our La Porte, Indiana, location. Thus we provide availability, fast response and on time delivery from the heart of North America. The network of sister companies within the Jäger Group provide equal service to our global customers. Although every plant has its distinct focus on certain technologies, the project management, engineering, procurement, sales, after sales and logistic procedures are well synchronized and standardized by our central MRP system while our key account managers take full personal responsibility for their customers.

The success of our company is the success of our people. Specific technical expertise combined with economic and social competence form the basis for individual responsibility. Thus, our work flow is marked by personal responsibility and continuous improvement. Whether we employ a 100% inspection standard, automated vision and functional inspection of mass produced rubber parts, we ensure quality is the basis of everything we do. Having set the industry standard for inspection of rubber parts, we design both the software and hardware in house and build the equipment ourselves to keep this leading edge knowledge proprietary.

We meet the strictest of requirements:

- All Jäger manufacturing plants are certified according to ISO 9001 or TS 16949
- We are environmentally responsible as our processes are managed according to DIN ISO 14001
Supply Chain Management

We have full EDI capability to process electronic delivery calls on a revolving delivery schedule. Custom specific packaging including management of the empty containers are part of our service. While we have the experience of Just-in-Time, we manage First in-First-out to ensure all raw materials and finished goods always meet our customers specification. By grouping contracts our disposition and logistics chain slims down costs and reacts flexibly and quickly to fluctuating demands and market changes. Still our customers benefit from our vendors in low cost countries. Based on their support we deliver projects with high share of manual work and specific assorting and assembling processes to complement the manufacturing capabilities within the Jaeger Group.

Supplier Management

Our vendors are integral part of our supply and value chain. They are our partners on eye levels height. We expect them to make us successful so we can provide them long term business. A sophisticated supplier management supports our partners to improve their internal processes continuously in order to decrease cost within the entire supply chain. Our strategic suppliers are regularly qualified and audited by our commodity managers and have therefore been approved by many of our customers.