



CUSTOMISED INNOVATION ENGINEERED SOLUTIONS FOR THE AUTOMOTIVE INDUSTRY

FROM CONCEPT TO HIGH VOLUME MANUFACTURE

TECMAN SPECIALITY MATERIALS LTD

ENGINEERED SOLUTIONS FOR AUTOMOTIVE



<http://www.tecmanuk.com>

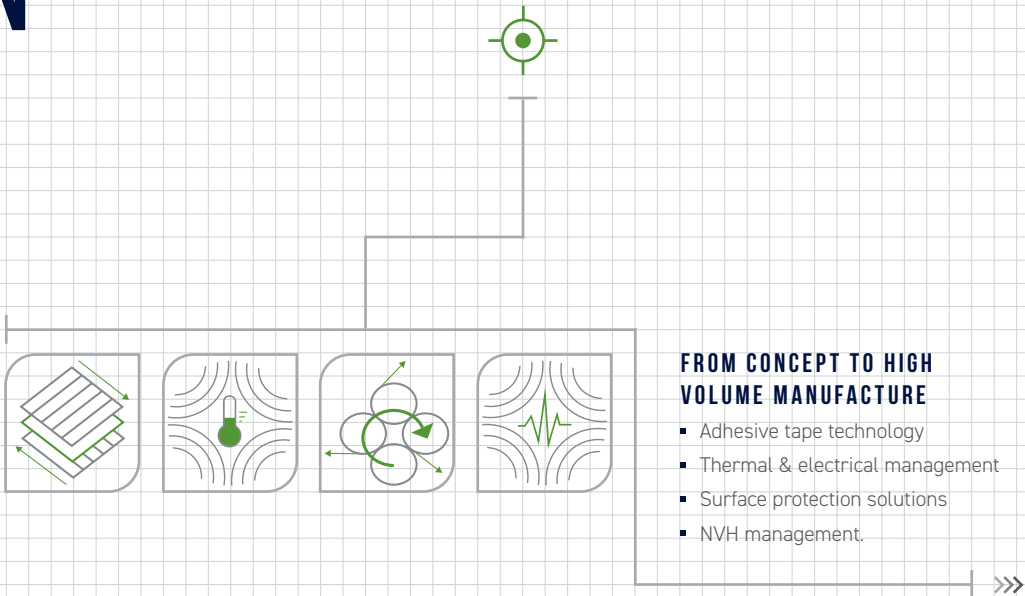


ISSUE NO.4



01

PERFORMANCE BY DESIGN



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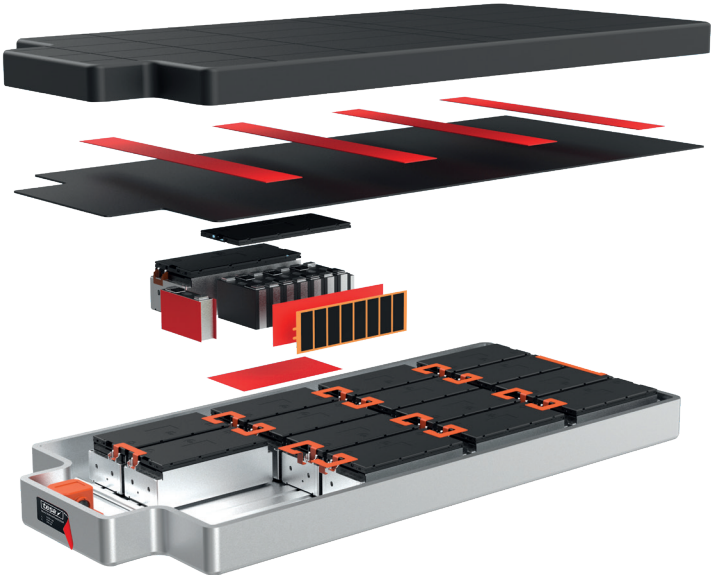
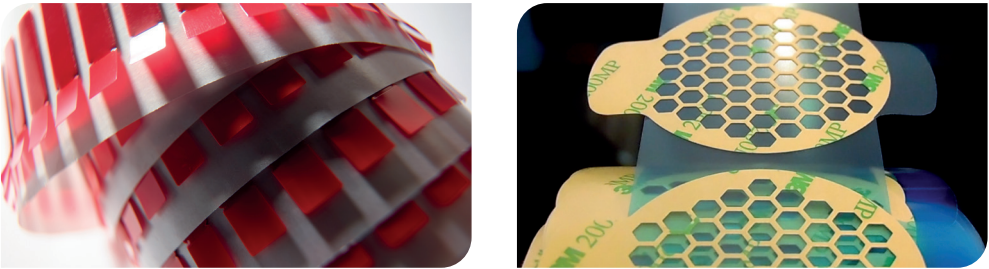
02

AN END-TO-END MANUFACTURING PARTNER

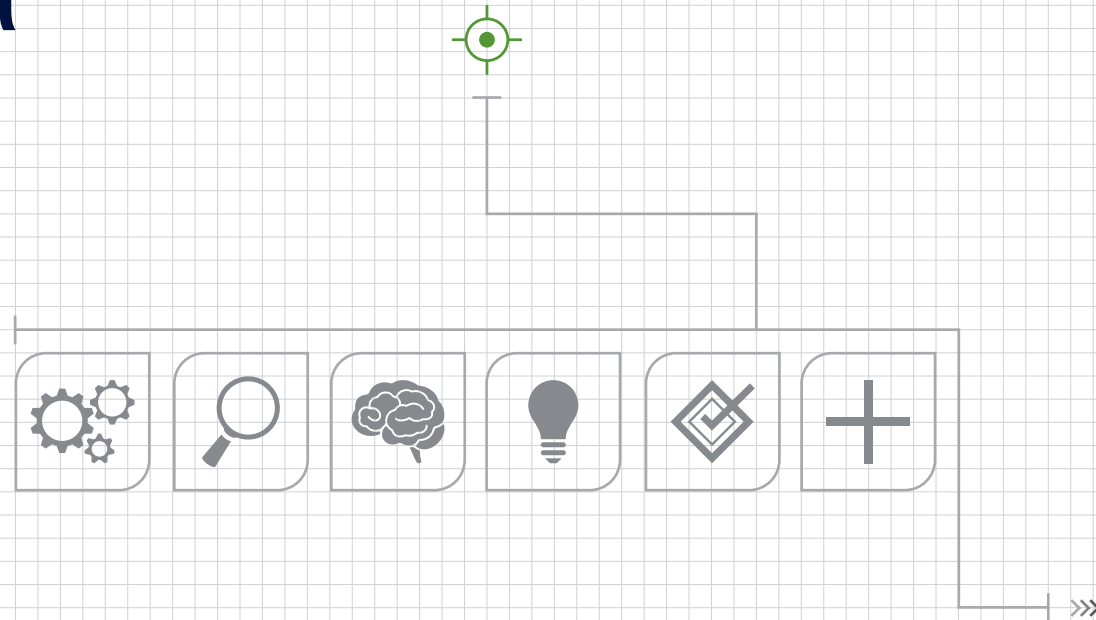
Tecman is a leading advanced material converter and end-to-end manufacturing partner for the automotive industry. From concept to high volume manufacture, we specialise in delivering value added solutions that streamline and improve automotive manufacturing assembly processes.

Our engineering, manufacturing, and delivery capabilities have enhanced applications for over 25 years. Ongoing research into new materials and processes, combined with extensive engineering knowledge and lean manufacturing processes enable the development of solutions that not only solve challenges but also add tangible value where it really counts.

With world class capabilities and resourceful application engineers, our solutions constantly break new ground. We make a positive difference by collaborating with our clients and applying intelligent, creative thinking to every new project.



A PROVEN PARTNER



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04

OUR VALUE-ADDED PROCESS

As a trusted automotive partner, we work with OEM's and tier suppliers across the globe to develop end-to-end solutions optimised for application efficiency and product enhancement. Our proven track record underlines our commitment to delivering value-added products with consistent quality and on time delivery.

By taking a collaborative approach, we partner with our client's engineering team as the advanced material and manufacturing specialist to create solutions and processes designed for cost-efficient high-volume manufacture. By gaining crucial insight into what the project needs to achieve, we carefully consider every aspect to ultimately deliver a solution that adds tangible value for our customers.



COLLABORATE

We work in close collaboration with our clients, tailoring our processes to meet their requirements.



INSIGHT

At the initial design stage of any project, our application engineers work with our client's design team to gain deep insight into the application and what it needs to achieve.



CONSIDER

Looking beyond initial drawings to the end application, we carefully analyse and consider all aspects of the project. We then focus on how we can improve overall performance to push efficiency up and costs down.



INNOVATE

Drawing on over 25 years of engineering and material knowledge we develop an intelligent, forward-thinking solution that precisely matches product to needs.



ENHANCE

The final outcome not only solves problems, it adds value in ways that matter most: better assembly, lower overall costs, and continuity of supply.



SUPPORT

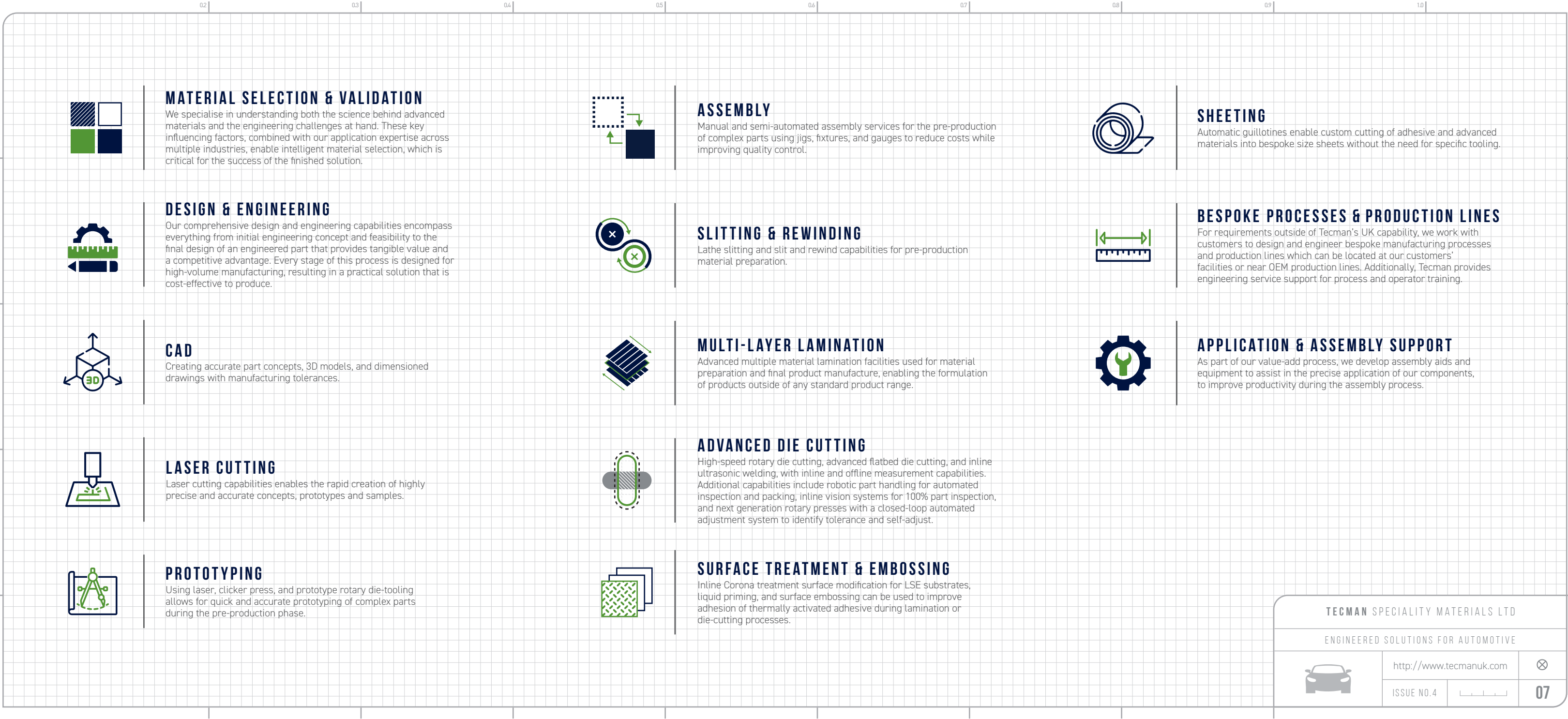
Our extensive knowledge across multiple platforms enable us to provide the highest levels of ongoing technical support and customer aftercare.

AUTOMOTIVE

SERVICES & CAPABILITIES

Our in-house manufacturing facility is equipped with innovative capabilities and advanced manufacturing technology. Continuous investment in our facility and team enables us to remain at the forefront of product and manufacturing innovation and ensures that Tecman's solutions provide our customers with a strong competitive advantage.

With a focus on innovation in both material development and product configuration, we work in collaboration with our customers and supply partners to achieve results that add tangible value: better performance, fast and easy assembly, lower product cost, and continuity of supply.



AUTOMOTIVE

ADHESIVE TAPE

TECHNOLOGY

Our leading-edge automotive adhesive tapes withstand all environmental conditions and deliver numerous benefits for both interior and exterior automotive bonding applications.

With an emphasis on weight reduction and performance, Tecman automotive bonding and mounting solutions are designed to aid the application process, increase productivity, and reduce costs.

IN ACTION

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CHALLENGE

Improve an established adhesive gasket application for bonding an a-surface component to a vehicle instrument cluster for high-volume manufacturing.

💡

SOLUTION

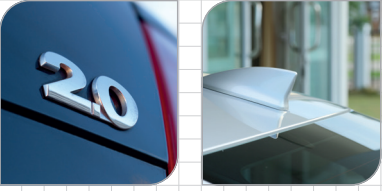
Use of a unique adhesive product to block light transfer between instrument light displays. Adding features to improve gasket application into the concave shaped component. Incorporating finger-lift tabs to prevent contamination during application.

✓

OUTCOME

An improved application process and increased surface contact of adhesive to component with an overall enhanced safety and product performance of the vehicle instrument cluster.

APPLICATION AREAS



EXTERIOR TRIM MOUNTING

Bespoke adhesive tape solutions for the permanent bonding and mounting of exterior trim. Available in various formats including die-cut components for improved assembly and application efficiency.

- Parking sensor mounting
- Badge and emblem mounting
- Arch flares
- Rear spoiler
- Aerial attachment.



EXTERIOR MIRROR ASSEMBLY

Lightweight, permanent, and reliable bonding that performs in all weather conditions. Supplied as precision die-cut components designed for rapid application to reduce assembly time.

- Heating element on base plate
- Heating element on glass
- Glass on base plate
- Thermal dissipation of heating element
- Outer casing protection.



BONDING AND MOUNTING

Precision die-cut adhesive tapes for lightweight, permanent and constant bonding power during automotive assembly processes.

- Heated seat assembly
- Interior mirror assembly
- Component attachment.

DISPLAY & INSTRUMENT PANEL

Bonding and sealing components for vehicle instrument panel.

- Light blocking adhesive
- Adhesive tapes
- Sealing tapes
- Screen protection.



WHEEL COMPONENTS

Hard wearing and robust adhesive tape components developed for automotive wheel applications.

- Wheel weights
- Brake shims.



INTERIOR TRIM MOUNTING

Bespoke adhesive tape solutions for interior trim using next generation PSA technology and low VOC adhesive. Available in various formats including die-cut components to improve assembly and application efficiency.

- Headline assembly
- Carpet
- Door cards
- Dashboard inserts
- General surface trim.



DEFECT IDENTIFICATION

Bright yellow arrows for quick and easy identification of vehicle defects.



SEALINGS AND GASKETS

Designed to conform to automotive specifications and seal against dust, moisture and other elements.

- Light gaskets
- Vent gaskets
- Speaker gaskets
- Bonding door and window seals.



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AUTOMOTIVE
THERMAL &
ELECTRICAL
MANAGEMENT

Increasingly sophisticated vehicle electronics need leading edge materials to meet complex application requirements. We have years of experience in solving thermal and electrical management challenges across multiple industries, designing and manufacturing millions of engineered components to exceed customer expectations.

With a focus on improving safety and performance whilst extending battery cell life, we have some of the most effective solutions available for thermal management, and electrical conducting and insulating.

IN ACTION



Develop a single manufacturing process for an anti-thermal propagation solution to optimise space between cells and control expansion and contraction to improve cell life and performance.



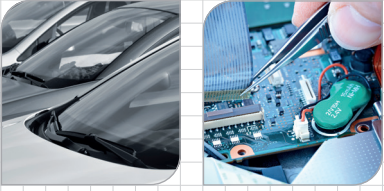
A highly efficient compact manufacturing process suitable for integrating into existing production facilities, manufacturing Framed ATP Pads in one continuous production run without the requirement of a 3rd party converter.



Cost efficient manufacture of 36 million Framed ATP Pads per annum at close proximity to battery assembly plant or at customers own facility. Superior anti-thermal propagation using advanced technology improves safety and increases cell life.



APPLICATION AREAS



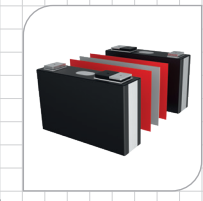
CONNECTORS

Available in various formats for specialist electrical applications, including flexible circuits for fine pitch and high density applications. Materials include foils, polyimide films, and electrically conductive adhesive tape.

- Bus bars
- Earth connectors
- Flexible circuits
- Solderless connections for flex to PCB.

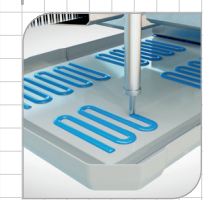
EMI/EMC/RFI SHIELDING

Shielding components that combine conductive adhesives with super conductive substrates, such as metallic foils and electrically conductive foams, silicones and woven fabrics.



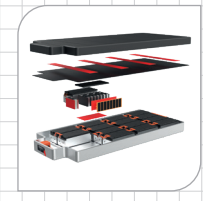
ADVANCED THERMAL CELL BARRIERS

Anti-thermal propagation (ATP) pads provide advanced thermal management between battery cells. A combination of ultra-lightweight insulation material, encapsulation films and built-in spacers prevent thermal propagation and optimise cell performance.



THERMAL INTERFACE MATERIALS

Thermal transfer solutions supplied as die-cut pads or liquid systems. Highly conductive products provide a thermal transfer path between components.



THERMAL MANAGEMENT IN BATTERY PACKS

Developed with engineering teams worldwide, our solutions are designed to optimise performance, unlock potential and reduce risk.

- Battery lid thermal protection
- Battery cell wrapping
- Mounting heating plate films
- Battery metal component insulation
- Mounting battery module frames & other battery parts.

IN-CAR INFOTAINMENT SYSTEMS

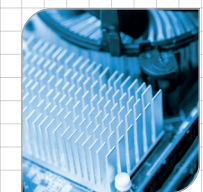
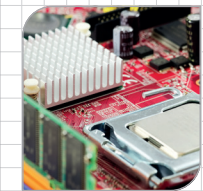
Next generation advanced materials available in bespoke die-cut formats for improved performance.

- Bonding tabs and pads
- Cushioning parts
- Display enhancement and protection
- Earth-grounding components
- Thermal management materials.

THERMAL MANAGEMENT IN ELECTRONIC COMPONENTS

Very high performance thermally conductive foam tapes provide superior transfer of heat from component to heat sink. A conformable carrier improves surface contact and replaces the need for thermal grease and mechanical fixtures, reducing weight and costs.

- High-density electronic component clusters
- High energy units
- Cooling fans to heat dissipation materials
- Components to heat sinks
- Compact battery management.



LIDAR AND RADAR

Bespoke bonding and seating solutions for ADAS applications.

- Sensor bracket mounting
- FPC/PCB mounting
- Heater/absorber mounting
- Debondable mounting
- Box sealing
- Antenna mounting
- Light blocking

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AUTOMOTIVE

SURFACE PROTECTION SOLUTIONS

Tecman's high-performance masking and protection solutions are developed to meet our clients exacting requirements whilst facilitating rapid and accurate application to increase productivity during assembly and manufacturing processes.

We combine high-performance materials with innovative manufacturing techniques to develop bespoke solutions that cover every stage of the vehicle manufacturing process, from preparation and painting to final delivery.

Our product range include OEM approved protection films designed to protect piano black paint and other sensitive surfaces during manufacturing and transportation processes whilst ensuring residual free removal at the dealership.

IN ACTION

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CHALLENGE

A major automotive OEM with a requirement to protect notoriously sensitive piano black painted centre console during manufacturing and transportation processes.

💡

SOLUTION

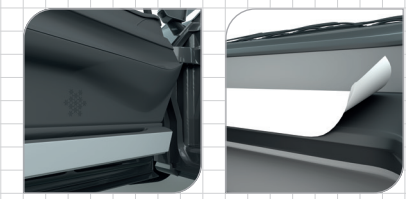
Provided a full end-to-end service to engineer a protection solution with innovative design features enabling component testing without removal through to clean removal at the dealership.

✓

OUTCOME

An OEM approved surface protection solution specified on drawings that significantly reduced processing time due to fast and accurate application design.

APPLICATION AREAS



INTERIOR SURFACE PROTECTION

Bespoke die-cut surface protection solutions for automotive interiors to protect surfaces and components during manufacturing and transportation processes, through to residual free removal at the dealership.

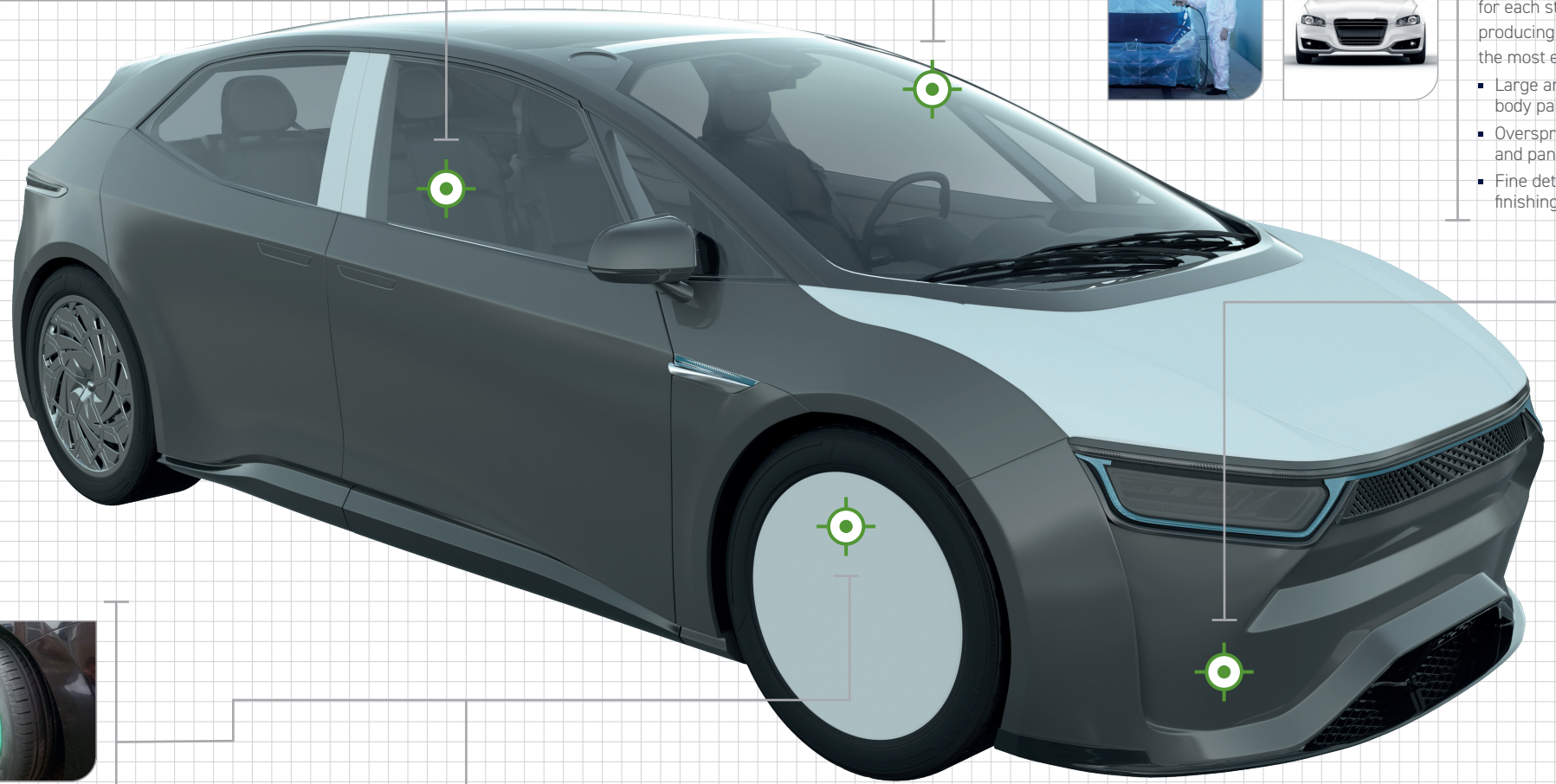
- OEM approved protection film for piano black paint
- Decorative interior trim
- Door panels and door sills
- Upholstery and floor coverings
- Screen protectors.



EXTERIOR SURFACE PROTECTION

Bespoke die-cut surface protection solutions for automotive exteriors designed to protect paint, trim and other exterior components during manufacturing and transportation processes with residual free removal at the dealership.

- Exterior trim
- Freshly painted metal
- Wheel protection
- Light lenses
- Plastic components
- Spoilers
- B-pillars and c-pillars
- Badging.



APPLICATION & ASSEMBLY SUPPORT

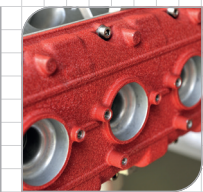
We develop assembly aids and equipment to assist in the precise application of protection components to increase productivity during assembly. Where there is existing equipment, we develop our solutions to work seamlessly with our clients own processes.



PAINT MASKING

High performance masking solutions for each stage of the painting process, producing a flawless paint finish for the most exacting requirements.

- Large area paint masking for body painting
- Overspray masking for component and panel masking
- Fine detail paint masking for finishing and two-tone paint work



SPECIALIST MASKING

Designed for high temperatures or heavy-duty coating and blasting applications.

- Automotive hole covering for powder coating applications
- Critical surface masking for powder coating applications
- Sandblast and shotblast masking.

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AUTOMOTIVE

ACOUSTIC

MANAGEMENT

The absence of low-frequency engine noise brings new challenges with EV and PHEV due to higher-frequency sounds becoming more prominent from areas such as inverters, battery charging and electric motors. The requirement for quieter, lightweight, and more energy efficient vehicles requires NVH components to become lighter and more efficient.

Tecman's Alfa® Technology acoustic insulation materials combine sophisticated multi-layer laminates, lightweight dampening, and advanced scrim materials with innovative manufacturing techniques to produce some of the most advanced NVH management solutions for electric vehicles.

IN ACTION

? CHALLENGE	Requirement for 100% absorption coefficient between 800 - 2500Hz due to gas rush for an existing NVH application where too much noise was getting into the cabin and the original solution did not meet the specification set out by the OEM.
💡 SOLUTION	Combination of zone coated adhesive tape laminated to acoustic insulation material and die-cut to shape. Presented with a complete, single peel release liner for improved liner removal.
✓ OUTCOME	OEM NVH component with exceptional NVH properties and bond strength, easy and quick application with consistent, successful results.

APPLICATION AREAS



INTERIOR NVH
NVH pads for interior applications.

- Insulation dash
- IP insulation
- Boot linings
- B surface NVH
- Rear tailgate.



SPEAKER BAFFLE COMPONENTS
Bespoke solutions for improved aesthetics without interfering with the acoustic properties of the speaker.



EXTERIOR NVH
NVH pads for insulating vehicle body applications.

- Wheel arch
- Body panels
- Load floor
- Interior bulkhead
- Tunnel applications.



POWERTRAIN NVH
Lightweight NVH solutions designed to dampen high frequency noise generated by electric powertrains.

- e-motor encapsulation
- Engine cover
- Acoustic ducting
- Vibration control.



BUZZ, SQUEAK AND RATTLE PREVENTION
A range of products designed to absorb noise and vibrations including anti-rattle pads for dashboards and HVAC, produced using a variety of EPDM, Poron, PUPE and semi-open cell foams as well as fleece, felt and UHMW films.

- Dashboards
- HVAC ducting
- Bridging gaps
- Airborne noise reduction
- Friction reduction
- Noise dampening.



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CERTIFICATION & QUALITY MANAGEMENT

Quality systems are at the core of our processes and procedures. We prioritise quality throughout the entire engineering and manufacturing process, from initial concept through to final finishing, inspection, and packing. Performance is monitored through established KPI's and regularly audited in line with our quality accreditations.

This ensures we provide our customers with solutions that surpass their expectations and meet the highest quality standards.



SUPPLY CHAIN MANAGEMENT

Supply chain management is a crucial process that ensures high quality and timely delivery of materials and components.



COLLABORATION

We take a collaborative approach to managing our supply partners, building strong relationships based on trust, communication, and transparency.

By maintaining close relationships with our supply partners, we can mitigate risks, increase efficiency and improve product quality. Ultimately leading to greater customer satisfaction and profitability for everyone involved.



PARTNERSHIP

Effective supplier management involves selecting the right partners, assessing their capabilities and risks, establishing clear expectations, including performance metrics and monitoring, and providing continuous feedback.



SUSTAINABILITY

There are many world class suppliers in the UK and where possible we support British businesses.

Our UK supply partners provide a wide range of products including films, papers, tapes, adhesives, protection films and NVH materials. Sourcing locally also helps reduce emissions and supports a more sustainable, robust supply chain.



IMPROVEMENT

We monitor and work closely with our suppliers to facilitate continuously improving processes, lead times and our product offering.

Once products are onsite at Tecman, we employ a variety of inventory management techniques including JIT, Kanban, FIFO, Six Sigma and Vendor managed inventory.

WHAT OUR CLIENTS THINK



Tecman's knowledge of existing product, possible changes of adhesives, understanding of our needs and rapidity to produce samples was exemplary. Even after much iteration in our development nothing was too much trouble and Tecman's enthusiasm never flagged. I would be very nervous of losing the support and knowledge they carry.

Senior Development Engineer at leading design and manufacturing organisation



Tecman supported with extensive product trials and were able to replicate the bond on a trial part using an advanced adhesive tape product which has automotive approval, and the ability to sustain the ageing tests. Provided excellent technical assistance and on time service. Thank you for your support team!

Technician from Leading Adhesive Specialist



I am continually impressed by the excellent service that Tecman provides, the times I have requested support from Tecman it has always been fast and efficient. It makes a pleasant change to deal with a company that takes pride in providing a first class service. I have recommended Tecman in the past & will continue to do so, Keep up the good work and thanks for all your help.

D.E Design Engineer at Display Enhancement Manufacturer



We appreciate the design input from Tecman which helps us to provide easy to use converted products.

Tier 1 Automotive Supplier



The service from Tecman has been 1st class, over and above in every aspect of a difficult programme launch phase. From Delivery and supply to ensure no disruption to technical support in product definition, problem solving and product improvements. Highly recommend.

Programme Quality Manager, Tier 1 Automotive Supplier

HERE TO HELP

Get in touch with our application engineers to find out how we can add value to your existing application or new project. We look forward to hearing from you.



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