Body in White Solutions

How can **3M help you?**

Contact 3M Automotive Division to see how we can help your business.
Our team of specialists are on hand to help solve your business issues and application requirements.

Interior | Exterior | Paintshop | Body in White | Powertrain | New Technology

Introduction

Adhesive technology is gaining importance in vehicle design and manufacture. Benefits can be offered in numerous applications for joining metal, glass, composites and plastics (including low surface energy polymers). Performance benefits can be acheived in the fields of:

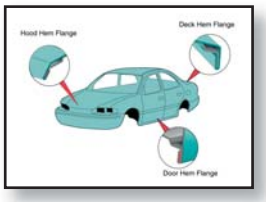
- NVH
- Weight reduction
- Stiffness
- Corrosion reisitance
- Durability
- Design flexibility

Adhesives can also be used to facilitate mixed material structures and improve structural stability where welding is either not possible or is not sufficient. We offer dependable adhesive bonding technology with engineered structural and semi-structural bonding solutions using innovative products and supported by first class laboratories.

Tel. 01344 857 867
www.3M-automotive.com

Structural Adhesives

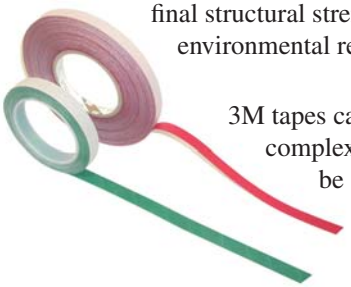
- **Two-Component Structural Adhesives** – achieve very high strength and durability enabling structural bonding across different materials. On aluminium and steel they ensure robust and durable bonds and demonstrate their quality even when joining composite materials.



Two-component structural adhesives are resistant to washout and do not absorb moisture during storage and transport. With their high oil compatibility, ease of handling and application, two-component structural adhesives are ideal for hem flange bonding. The adhesives also build up strength at room temperature and partial pre-curing is possible by applying selective heating. In addition, these adhesives are resistant to heat, moisture, salt water and solvents which enable flexible processing within the Body in White area and in the Paintshop.

- **Structural Adhesive Films** - are used for structural metal bonding or stiffening of various substrates and combinations. Application examples include load-carrying structural bonds such as hinge washer bonding, hinge and pillar reinforcement brackets, roof bow brackets and stiffening pads for hoods. They develop outstanding bonding characteristics even on oily surfaces and can also be efficiently combined with spot welds or rivets, if necessary.

Their low degree of initial tack in the non-cured state make these products ideal for placement and repositioning into a final location. The films achieve their final structural strength after heat curing and provide a high level of environmental resistance.



3M tapes can also be used directly from rolls or die-cut to complex shapes to suit the application. The product can also be applied in multiple layers and exhibit some expansion during typical E-coat cycles to maximise joint fill.

3M Automotive
Driven by Innovation. Worldwide

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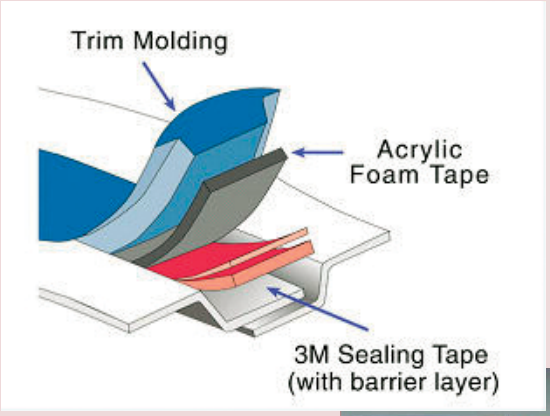
- **Melt Sealing Tapes** - the conformable structural sealing tape is PVC-free and offers an outstanding seal for gaps and openings. The tapes offer design freedom as they can be painted and supply the ideal base for perfect surfaces and are also simple and clean to apply. Melt Seal Tapes are normally applied on the E-coated surface.



- **3M™ Scotch-Grip™ Fastener Systems** - screws and threads that are pre-coated with microencapsulated fastener adhesives and thread sealants provide additional security and are particularly suitable in the manufacturing of engines and transmissions. The shearing action of engaging the fastener into a nut breaks the capsules and allows the adhesive to cure at room temperature. The coated bolt can be re-used many times and is sealed against oil, water and fuel. Screw fastening systems are also resistant to temperatures of up to 200 °C.

- **Structural Bonding Tape** - is formulated for the bonding of rear view mirror attachment buttons to the windscreen. The unique hybrid construction allows application as a pressure sensitive tape and subsequently developing structural strength via a heat cure to give long term durability. Retainer clips and roof rail fasteners have also been successfully bonded with SBT.

- **Manufacturing Consumables** – surface preparation and finishing systems prior to paint. Achieving the optimum finish in each production step is critical to your final build quality. We have effective systems for grinding, sanding, polishing, masking and wiping. From Body in White through to the Finesse-It™ system, 3M can help you to repair and refine the surface quickly and consistently.

- **Aftermarket Solutions** – 3M offer a wide range of products such as Panel Bonding Adhesive and Surface Preparation for Structural Repair Solutions designed at meeting OEM original specification.

Research and Development

As body architectures become increasingly complex, 3M are focused on delivering solutions to make vehicles more comfortable to drive, consume less fuel and have better crash behaviour.

Our extensive test and lab facilities are dedicated to supporting applications of our adhesive systems while developing the next generation adhesives and Body in White solutions. We collaborate closely with manufacturers of induction equipment and robotic systems to ensure problem free integration within your production processes.

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Key contact: Jeff Kapp
Tel: 07920 534353
email: jekapp@mmm.com

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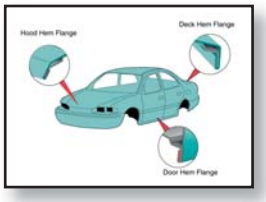

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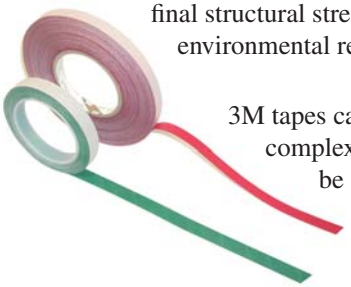

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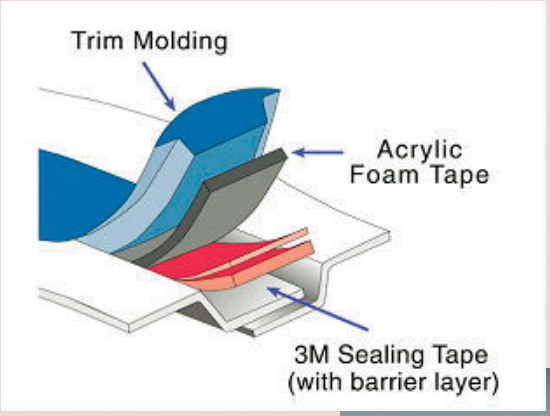

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