Design & Assembly Solutions that Perform
Stand Out in a Crowd by Leading the Way
Design and Assembly Solutions – Display & Signage Market

Using traditional fastening techniques such as rivets, screws and spot welding can necessitate design compromises and cost penalties. However, 3M offers a comprehensive range of alternative assembly solutions that provide aesthetic and durable results tailored to material choice and sign design. This brochure is a guide to help you choose the best design and assembly solutions for your signage, temporary or permanent mounting display such as:

- Building-mounted signs
- On-premise freestanding signs
- Billboards (also called monopoles)
- On-premise interior signs
- Indoor display board
- Store Fixtures
**Surface Preparation**

**Masking (die-cut masking) & Sandblast Stencils**

3M™ Masking Tapes are used for protecting materials during the painting process.

- **3M™ General Purpose Masking Tapes 199, 203 and 205** can also be used for multi-purpose applications.
- **3M™ Medium Performance Masking Tape 234 and 2308** are specifically designed for bake paint masking applications. May also be used for temporary attachment of components.
- **3M™ Vinyl Tape 471** offers conformable masking; prevents paint bleed through; provides good adhesion and is easy to remove. It also minimizes rework.
- **3M™ Sandblast Stencil Products 519 and 520** withstand the heavy blasting used to create crisper, deeper images in stone, wood, and other surfaces. Adhesive adheres to numerous surfaces and removes cleanly.

**Sanding**

- **Scotch-Brite™ Roloc™ Surface Conditioning Discs** are aggressive yet conformable for use on right angle die grinder tools to remove contamination and prepare the surface for bonding without affecting the substrate.
- **Scotch-Brite™ Handpads** are non-contaminating nylon abrasive pads that can be used by hand to remove light corrosion and prepare the surface for bonding without affecting the substrate.
- **Scotch-Brite™ Roloc™ Flap Brushes** are conformable abrasive products for cleaning the surface of a metal panel and providing a satin brushed finish.

**Priming**

3M has a series of primer products that promote better adhesion for different materials commonly used in display and sign assembly, such as bare metals and painted surfaces, glasses and plastics.

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**The Right Tool Kit for you...**

3M Convenient Tool Kit provides all the tools you need for proper signage and display assembly.

**Quick and easy surface preparation** – 3M™ Scotch-Brite™ Hand Pad and Plastic Spray Bottle with Nozzle.

**Everything you need to apply tape successfully** – File Cleaner, 3M™ Hand Applicator and Power Roller (J-Roller).
**3M™ VHB™ Acrylic Foam Tapes**

A high strength and economical alternative to traditional mechanical fastening systems for sign assembly. Little or no investment in machinery is required. Enhances the quality and look of signs, with higher resistance to corrosion.
Solution I: Panel to Frame Assembly

**Benefits:**
- Smooth sign face, free from distortion and spot weld marks.
- Avoids stress points that can be caused by rivets; flexible bond allows joining of dissimilar materials.
- Assembly of large signs is made easier with 3M™ VHB™ Tape compared to using a rivet gun.

**Considerations:**
- Weather conditions, including extreme temperatures, damp/wet environment require a strong permanent bond.
- Flexible bond reduces joint stresses caused by wind movement.

Solution II: Panel to Stiffener/Poster Installation

**Benefits:**
- Invisible fixing method; no mechanical fixing.
- High strength and durability.
- Easy and fast assembly using the 3M™ Scotch-Weld™ EPX™ Gun.

**Considerations:**
- Design will determine whether to use a structural adhesive or a bonding tape.
- As these signs are usually installed outside, sealing against water infiltration is key to ensure durability.

Solution III: Letter Mounting

**Benefits:**
- Ensures flush vandal resistant finish.
- Invisible fixing and minimal surface damage.
- Structural strength achievable on small areas.

**Considerations:**
- Bonding different substrates (eg. metal to plastic).
- Environmental and location of the sign (internal/external).
- If bonding direct to brick, always apply a primer first to using 3M™ VHB™ Tape. An aerosol adhesive - Spray 80 - can be used as a primer in this case.
3M™ VHB™ RP Tape

3M™ VHB™ RP tape is the right product for most sign assembly, able to attach a variety of signage materials, including many metal, plastic and painted materials.

- Bonding lightweight sign face skins to frames.
- Bonding stiffeners to panels.
- Bonding decorative materials.
- Sign assembly and lens attachment.
- Hanging signs and letters.

3M™ VHB™ Tape 5952 Family – Expands your sign assembly options

5952 requires minimal surface preparation, eliminating surface priming or abrading. Special formulation also bonds on contact to most paints and powder coats, as well as plastics, such as rigid PVC, acrylic, polycarbonate, ABS and polystyrene and most powder-coated paints.

3M™ VHB™ Clear Tapes

Have been ‘the’ reference when it comes to bonding translucent or clear materials. 4905 and 4910 offer clean and sleek aesthetics to the display and signage industry.
3M™ Scotch-Weld™ Acrylic and Epoxy Adhesives

- Eliminating secondary sealing or finishing operations, saving time and money;
- Achieving stronger and tougher structures by improving stress distribution;
- Joining a wide variety of materials that are unable to be assembled by traditional methods of fastening.

3M™ Scotch-Weld™ Acrylic Adhesives DP805, DP807, DP810 and large surface bonding adhesives are recommended for sign assembly.

3M™ Adhesive Sealants

3M Adhesive Sealants give you powerful alternatives for bonding, filling, sealing, waterproofing of your sign assembly. 3M™ Polyurethane and Hybrid Adhesives and Sealants are easy to apply, help increase productivity, simplify operations and cut costs.

3M™ Adhesives Sealants suggested for sign making are 550, 755 and 730. 550B can be used for attaching larger signs.
Easy to attach. Easy to remove.

3M™ Reclosable Fasteners

3M™ Hook and Loop Reclosable Fasteners – For thousands of easy attachments and removals, these hook and loop fasteners keep replaceable graphics smooth and secure.

3M™ Dual Lock™ Reclosable Fasteners – For hundreds of secure attachments, interlocking mushroom-capped stems snap together to help keep large or heavy replaceable graphics in place.

Pressure Sensitive Adhesive – backing on both types of fasteners bonds on contact and holds the mating strips to metal, plastic, glass, wood, and other surfaces.
These double-coated tapes feature a “permanent” adhesive on one side of a carrier and a removable/repositionable adhesive on the other. The permanent side adheres to a graphic. Removable side is covered with a liner that is removed to expose the adhesive for attaching a temporary sign.

3M™ Removable and Repositionable Tapes

3M™ Double-Coated Foam Tape 4658F, 776(FL) and 9425(HT) are suggested for sign attachment.
Impressions

HSE Plastics

3M™ Laminating Adhesives

Laminated to the back of paper, vinyl, plastic film, and other sign materials, these pressure sensitive adhesives bond permanently to foam board, plastic, and other surfaces. Select formulations to meet end use conditions that include sunlight, extreme temperatures, long term display, moisture and more.

3M™ Laminating Adhesives 467MP and 468MP, 9472LE and 9473PC are suggested for sign attachment.

3M Scotch® ATG Applicator

With the squeeze of a trigger, the Scotch® ATG Applicator applies double coated adhesive tape to paper, foam board, vinyl and other sign materials. The liner rewinds during application to save time and eliminate mess. Select repositionable/removable or permanent adhesives.

3M Scotch® ATG Applicator 700 and 714 are recommended. 3M ATG Adhesive Transfer Tapes 987, 924, 928, 969 and 908 (acid free) are suggested for sign assembly.
3M™ VHB™ Tapes
These double-coated foam tapes have been used to build professional looking signs since 1980.
- High strength for durable indoor and outdoor signs.
- Easy to apply without drilling, screwing, riveting, or welding.
- Instant handling strength.
- Invisible fastening for smooth attractive surfaces.

3M™ Adhesives
3M™ Adhesives that are GREENGUARD™ Indoor Air Quality Certified® can help sign manufacturers to make long-term economic sense and make your products green, such as indoor display board and signs – opening the door to a whole new universe of customers.

3M™ Scotch-Weld™ 94CA Adhesives and 3M™ Fastbond Contact Adhesive 30 are suggested for these initiatives.

3M™ Adhesives & Sealants
3M™ 730 Clear Hybrid Sealant is ideal for sealing, filling, insulating, waterproofing and UV resistance, more convenient and more invisible than ever for permanent display.

3M™ 5010 Polyurethane Multi-Purpose Adhesive is designed for superior results to adhere a wide variety of sign materials, including wood, laminates, foam and some plastics. Excellent attachment solution for store fixtures and displays.
3M™ Temporary Protective Films

- 3M™ Protective Films safely protect various types of signs and displays during transportation and installation.
- A wide range of products covers protective needs for many different surfaces in interior as well as outdoor installations.

3M™ Commercial Graphics

- 3M™ Commercial Graphics products offer total graphics solutions for back-lit signage.
- 3M™ Panaflex™ and Panagraphics™ flexible sign materials to produce lightweight and impact resistant facias, canopies and awnings.
- 3M™ Scotchcal™ Translucent films for the production of durable decorations.
  Scotchcal™ 3630 translucent film has unique thermoformability capacities.
- Digitally printable films for the production of full colour translucent capacities.
- 3M™ Light management films offering diffuser, blockout, day/night, light enhancement and dual colour properties.

3M™ Paint Application Solutions

An innovative system from 3M™ that enables painters to mix less paint, improve transfer efficiency, reduce solvent usage and speed clean up.

- The 3M™ Accuspray™ system helps painters reduce coating consumption, while boosting productivity. It also maximizes the benefits of the 3M™ PPS™ System.

Important Notice to Purchaser

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3M Essentials. Quality

Finishing Touch

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