# Chemweld™ 801A/B

## *METHACRYLATE ADHESIVE, 30-35 MINUTE FIXTURE TIME*

Chemweld™ 801 A/B is a rapid-setting, methacrylate adhesive that provides a medium viscosity that is non-sagging & gap filing in thickness of up to 0.375 inches. The adhesive has excellent bond strength to plastics, metals, and most other surfaces. The Chemweld™ 801 A/B system has a convenient 1:1 by weight and volume mix ratio and is easy to apply from a dispensing nozzle or with a spatula, stiff brush or spatula. The cured adhesive features good peel strength and excellent impact, thermal shock, and fatigue resistance.

Other Chemweld™ 800 series adhesives are available with fixture times ranging from 2 – 120 minutes. Thickened and thinned versions are also available, as are custom colors. . Please contact us to discuss your application if you think such a variation might be needed.

**TYPICAL APPLICATIONS**

- Ideal for Automotive Components, Marine Assemblies, Sporting goods, Electronics Enclosures, Appliances, Electrical Components, Furniture, Plastic Fabrications, Sign & Display, Metal Fabrications, etc.
- Ideal for bonding PVC, Polycarbonate, Acrylic, Fiberglass, PBT, PPO, ABS, FRP, Polyurethane, Epoxy, Wood, Nylon, Polyesters, Gelcoats, Aluminum, CRS, Stainless Steel, Galvanized Steel, etc.

**HANDLING PROPERTIES**

| Chemweld™ 800A | VALUE | TEST METHOD |
|---|---|---|
| Density g/cm³ | 1.03 | ASTM E-201 |
| Viscosity at 25ºC, cps | 45,000 | ASTM D-2393 |
| **Chemweld™ 800B** | **VALUE** | **TEST METHOD** |
| Density g/cm³ | 1.04 | ASTM E-201 |
| Viscosity at 25ºC, cps | 45,000 | ASTM D-2393 |
| Mix Ratio by Weight | 1A:1B | Calculated |
| Mix Ratio by Volume | 1A:1B | Calculated |
| Viscosity, Mixed at 25ºC, cps | 90,000 | ASTM D-2393 |
| Working Time at 25ºC | 4-6 minutes | ASTM D-2471 |
| Fixture Time at 25ºC | 12-15 minutes | |
| Recommended Cure Schedule: | Functional cures are achieved in as little as 2-4 hours and full strength is developed within 8 -24 hours at 25ºC. | |

| PHYSICAL PROPERTIES | VALUE | TEST METHOD |
|---|---|---|
| Color | Cream (standard), White or black (made-to-order)* | Visual |
| Shore D Hardness | 78 | ASTM D-2240 |
| Tensile Strength, psi | 4,250 | ASTM D-638 |
| Tensile Elongation at break | 20% | ASTM D-638 |
| Lap Shear Strengths, various substrates at 25ºC / 77ºF: | | ASTM D-1002 |

| Substrate | Shear Strength | |
|---|---|---|
| Stainless Steel / Stainless Steel | 3400 psi | (cohesive failure) |
| Aluminum / Aluminum | 3200 psi | (cohesive failure) |
| ABS / ABS | 1500 psi | (substrate failure) |
| FRP / FRP | 1700 psi | (fiber tear) |
| Acrylic / Acrylic | 1120 psi | (substrate failure) |
| PVC/PVC | 980 psi | (substrate failure) |
| Polycarbonate:Polycarbonate | 860 psi | (substrate failure) |

Note: substrate failure indicates that the bonded substrate broke before the adhesive bond failed, fiber tear indicates that the fiber reinforced plastic tore a par from its fiber reinforcement before the adhesive bond failed

Lap Shear Strength tested at various temperatures:

| Test Temperature | Shear Strength |
|---|---|
| -40°C/ -40°F | 1420 psi |
| -29°C/ -20°F | 1800 psi |
| 25ºC / 77ºF | 3200 psi |
| 50ºC / 121ºF | 2000 psi |
| 82ºC / 180ºF | 540 psi |

Lap Shear Strength after Environmental Cycling:

each cycle 8 hrs at -30ºC, 8 hrs at 85ºC & 8 hrs @ 30ºC and 100% relative humidity:

| Aging Period | Shear Strength at 25ºC |
|---|---|
| 0 Days (initial) | 3480 psi |
| 30 days (30 cycles) | 3950 psi |

Note: Chemweld 800 resists environmental condition that will degrade many substrates. Environmental conditions that degrade the bonded substrate may reduce overall bond strength even if the adhesive is unaffected.

Lap Shear Strength after Chemical Immersion for 30 days at:

| Chemical | Shear Strength |
|---|---|
| Gasoline | 3200 psi |
| Acetic Acid (10%) | 3180 psi |
| Water at 25ºC | 3140 psi |
| Water at 90ºC | 2980 psi |
| Motor Oil | 3300 psi |
| Xylene | 3200 psi |
| Toluene | 3090 psi |
| Isopropanol | 3200 psi |
| Acetone | 60 psi |

| | | |
|---|---|---|
| T-Peel Strength | 20 pli | ASTM D3807 |

**NOTE** : Typical Properties determined using Chemweld™ 801A/B cured for 24 hours at 25ºC. Values are based on laboratory or average production results – not for specification purposes.
*Custom colors available by request

**SUGGESTED PROCESSING GUIDELINES:**

Chemweld™ 801A/B can be applied by stiff brush, roller, squeegee, knife, or spatula. They are also suitable for meter-mix dispensing and can be supplied in dual syringes cartridges for use with static mixing nozzles. Dispensing directly from disposable cartridges or meter-mix-dispensing equipment is strongly recommended as it ensures proper mixing without incorporating air and give consistent results. Product supplied in dual syringe cartridges can be dispensed using manual or pneumatic dispensing guns.

When meter-mix dispense systems are used, care must be taken to assure compatibility between the adhesive components and the equipment components that they contact. All wetted metal components should be constructed of stainless steel or aluminum or have a sufficient thickness of a chemically resistant material to prevent contact between the adhesive components and the base metal. Contact with copper, zinc, brass, and/or alloys containing these materials must be strictly prevented. All non-metallic seals and gaskets should be fabricated from Teflon® or UHMW polyethylene based materials.

If mixing manually, weigh Part A and Part B in the recommended ratio as accurately as possible into a clean mixing container. Always use weighing equipment having accuracy in proportion to the amounts being weighted. Blend by using a spatula or stirring stick for 1-2 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture.

Apply the adhesive to clean, dry surfaces free of dust and oils. Best results will be achieved with surfaces that have been lightly abraded or have a textured surface. Clamp or otherwise hold in place bonded parts so that they will not above prior to the bond curing, light even pressure is generally sufficient. Allow to cure at room temperature for at least the fixture time before any movement, impact or force is applied to the bonded parts. After the fixture time has elapsed check the edges of the bond or a witness sample to confirm proper setting before removing clamps or carefully handling the bonded parts. The parts can often be subject to normal handling and limited shock and chemical exposure once 3-4 times the fixture time (45 - 60 minutes) has elapsed. The adhesive will be expected to have reached about 80% of its final bond strength at this point. For demanding applications, allow at least the suggest cure time before subjecting the bonded parts to significant force, vibration, heat, or chemical exposure

**CLEAN UP:** Adhesive components and mixed adhesive should be removed from mixing tools and application equipment with a cleaner like our Rezi-Kleen #4 before it cures. For washing up and to clean skin and to gently clean wood and painted metals, we can supply GOOP® waterless Hand Cleaner, which is excellent for cleaning and protecting skin, wood, and other surfaces that could be dried out or damaged by stronger chemicals. Cured Adhesives can be removed with solvents like our UltraStrip solvent blends.

**STORAGE GUIDELINES & SHELF-LIFE:**

Store this material in a clean, cool and dry environment in its tightly closed original container. Shelf life of adhesive is at least 6 months from day of shipment when stored at 55°F and 75°F. Long term exposure above 75°F will reduce the shelf life of these materials. Prolonged exposure of part B, including in dual syringe cartridges, above 100°F (37.7°C) quickly diminishes the product's reactivity and must be avoided. These products should never be frozen, but

refrigerated storage at 4°C – 10°C (39°F - 50°F) will help extend the shelf-life to up to 1 year from date of shipment.

**HANDLING PRECAUTIONS:**

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. Read Material Safety Data Sheet before handling or using this product. Adhesive component A contains methyl methacrylate monomer and always use in a well-ventilated area. Activator component B contains peroxide. Both materials must be stored in a cool place away from sources of heat and open flames or sparks. Keep containers closed when not in use. Prevent contact with skin and eyes. In case of skin contact, wash with soap and water. In case of eye contact, flush with water for 15 minutes and seek immediate medical attention. Harmful if swallowed. Keep out of reach of children. **Note:** The chemical curing reaction that occurs when components A and B are mixed generates heat. The amount of heat generated is controlled by the mass and thickness of the mixed product. Large masses over 1/2 inch thick can develop heat in excess of 250°F/121°C and can generate harmful, flammable vapors. Large curing masses should be carefully moved to a well-ventilated area where the chance of personal contact is minimized.

**FIRST AID**

In case of contact:

**Skin** – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

**Eyes** – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

**Inhalation** - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

**Ingestion** - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

**DISCLAIMER:**

**IMPORTANT**: The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE**. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended

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