WELD-ON®

TECHNICAL DATA SHEET

40

Low VOC Acrylic Plastic Adhesive

SUBSTRATE RECOMMENDATIONS

Weld-On® 40 is especially formulated to bond extruded, cast, and cross linked acrylic (poly-methyl methacrylate) sheets. It will also bond acrylic to polyester, cellulose acetate butyrate, polycarbonate, PVC, ABS, PETG and other materials.

BONDING RECOMMENDATIONS

Weld-On 40 is recommended for bonding of acrylic plastics especially where good clarity retention is required. It is versatile and can be used in many applications such as sign fabrication, the manufacturing and repair of aquariums, museum quality display cases and other plastic fabrication.

GENERAL DESCRIPTION

Weld-On 40 is a two-component, clear, medium syrupy, low VOC, reactive acrylic adhesive. It polymerizes at room temperature, forming high strength joints within a few hours. The cemented joint retains high clarity, good strength and resistance to the effects of weathering and aging. In cases where a lower viscosity is desired, Weld-On 3061 may be used as a reactive diluent. When adjusting viscosity, similar curing characteristics will be maintained when no more than 10% of Weld-On 3061 is added to Weld-On 40 Component "A." This product meets Military Spec A-8576C Type III.

TYPICAL BOND STRENGTH†

Temperature	Aged Bond Strength, lbs/in² (kg/cm²)	
	24 Hours	1 Week
Room temperature	2,600 (182.8)	4,000 (281.0)
120ºF (49ºC)	4,500 (316.0)	5,700 (400.8)
150ºF (66ºC)	5,900 (414.8)	7,000 (492.0)

†Substrate thickness: 0.25 inch (0.64 cm). Bond area: 1.0 in² (6.45 cm²). Ultimate Bond Strength is defined as strength achieved after 24-hour room temperature cure.

ADHESIVE PROPERTIES AND CHARACTERISTICS @ 73°F (23°C)

Color:	Clear*	Fixture Time (Time to reach 80% of ultimate strength):	2 Hours
Viscosity:	2900 cps ± 150 cps	Time to reach ultimate bond strength:	72 Hours
Reactivity:	35 to 40 Minutes	Specific Gravity:	Component A: 1.026 ± 0.01 Component B: 1.160 ± 0.01
Working Time:	20 Minutes		

*When viewed in large containers, it is not uncommon for the product to show a yellow tint - older product may have a greater propensity for this. However, this appearance is due to the concentration of material. Once applied to the substrate, the product will be clear. The very same clear transparency will be retained during and after curing.

DIRECTIONS FOR USE

SURFACE PREPARATION: Surfaces to be joined should be clean and fit without forcing. It should not be necessary to flex either piece more than a few thousandths of an inch to achieve complete contact. Surfaces should be sanded with 240 to 400 grit sandpaper before bonding. Do not flame polish surface to be bonded.

MIXING: Before mixing, bring both Components (A & B) to room temperature. To adjust viscosity, add no more than 10 cc or grams of Weld-On 3061 per 100 cc or grams of Component "A." Then, add 5 cc or 5 grams of Component "B." Stir until completely mixed. If base adhesive is above 85°F (29°C), pre-cool to 75°F (24°C) before mixing.

POT LIFE: When mixed, pot life at 75°F (24°C) is approximately 20 minutes. Note: shorter pot life may result where larger masses are used or when temperature is above 75°F (24°C).

PRELIMINARY ANNEALING: To prevent crazing during bonding, acrylics should be annealed following machining and forming. (Refer to acrylic sheet manufacturer's published Annealing Schedules.)

MAKING THE JOINT: Apply adhesive with suitable applicator to one or both surfaces and assemble immediately. If cellophane masking tapes are used, avoid contact of Weld-On 40 with the glue side of tape. Apply just enough pressure to remove air bubbles. Do not squeeze parts too hard as to force adhesive out of joint, a dry joint could result. If possible, cover joint with cellophane to prevent inhibition of cure by air.

CURE TIME: At 70°F (21°C), a film thickness of 0.020 inch (0.508 mm or 20 ml) will typically be tack free in 7 to 8 minutes. The bond will harden in 45 to 60 minutes, and for most applications it can be handled in approximately 4 hours. Machining of the assembly can usually be done after 24 hours.

AVAILABILITY
This product is available in gallon (3.785 liters) and pint (473 ml) plastic containers. For detailed information on containers and applicators, refer to the current Sign and Display Assembly Selection Guide and Price List.

SHELF LIFE
One year in tightly sealed containers stored away from direct sunlight in a cool 50º F – 80º F (10º C – 27º C) dry place. Storage near the ceiling in non air-conditioned warehouses is not recommended. Shelf life is reduced at higher temperatures and enhanced at lower temperatures. Keep away from sources of heat, open flame, sparks and sunlight. The date code of manufacture is stamped on the bottom of the container.

QUALITY ASSURANCE
Weld-On® 40 is carefully evaluated to assure that consistent high quality is maintained. Fourier transform infrared spectroscopy, gas chromatography, and additional in depth testing ensures each batch is manufactured to exacting standards. A batch identification code is stamped on each can and assures traceability of all materials and processes encountered in manufacturing this plastic cement for its intended specific application.

SHIPPING
Shipping Information for One Liter Kit and Above*: Proper Shipping Name: Adhesive. Hazard Class: 3. Identification Number: UN 1133. Packing Group: II. Label Required: Flammable Liquid. **For Less than One Liter:** Proper Shipping Name: Consumer Commodity. Hazard Class: ORM-D

*If components are shipped separately, see MATERIAL SAFETY DATA SHEET for shipping instructions.

SAFETY AND ENVIRONMENTAL PRECAUTIONS
This product is a flammable, fast evaporating solvent cement. It is considered a hazardous material. In conformance with the Federal Hazardous Substance Labeling Act, the following hazards and precautions are given. Purchasers who may re-package this product must also conform to all local, state, and federal labeling, safety and other regulations. VOC emissions do not exceed 250 grams per liter.

WARNING! FLAMMABLE. VAPOR HARMFUL. MAY BE HARMFUL IF SWALLOWED. MAY IRRITATE SKIN OR EYES.

Keep out of reach of children. Do not take internally. Keep away from heat, spark, open flame and other sources of ignition. Keep container closed when not in use. Store away from direct sunlight in a cool 50º F – 80º F (10º C – 27º C) dry place. Use only in adequate ventilation. Avoid breathing of vapors. Atmospheric levels should be maintained below established exposure limit values. See Sections II and VIII of Material Safety Data Sheet. If airborne concentrations exceed those limits, use of a NIOSH-approved organic vapor cartridge respirator with full face-piece is recommended. The effectiveness of an air-purifying respirator is limited. Use it only for a single short-term exposure. For emergency and other conditions where short-term exposure guidelines may be exceeded, use an approved positive pressure self-contained breathing apparatus. Do not smoke, eat or drink while working with this product. Avoid contact with skin, eyes and clothing. May cause eye injury. Protective equipment such as gloves, goggles and impervious apron should be used. Carefully read Material Safety Data Sheet and follow all precautions.

Contains Methyl Methacrylate Monomer (80-62-6). Do not use this product for other than intended use.

"Title III Section 313 Supplier Notification:" This product contains toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40CFR372. This information must be included in all Material Safety Data Sheets that are copied and distributed for this material.

FIRST AID
Inhalation: If overcome with vapors, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call physician.
Eye Contact: Flush with plenty of water for 15 minutes and call a physician.
Skin Contact: Wash skin with plenty of soap and water for at least 15 minutes. If irritation develops, get medical attention.
Ingestion: If swallowed, give 1 or 2 glasses of water or milk. Do not induce vomiting. Contact physician or poison control center immediately.

IMPORTANT NOTE
This product is intended for use by skilled individuals at their own risk. These suggestions and data are based on information we believe to be reliable. Users should verify by test that this product, as well as these methods, is suited to their application.

WARRANTY
IPS Corporation (IPS Corp.) warrants that all new IPS Corp. products shall be of good quality and free from defects in material and workmanship for the shelf life as indicated on the product. If any IPS Corp. product becomes defective, or fails to conform to our written limited warranty under normal use and storage conditions, then IPS Corp. will, without charge, replace the nonconforming product. However, this limited warranty shall not extend to, nor shall IPS Corp. be responsible for, damages or loss resulting from accident, misuse, negligent use, improper application, or incorporation of IPS Corp. products into other products. In addition, any repackaging of IPS Corp. products also shall void the limited warranty. IPS Corp. shall not be responsible for, nor does this limited warranty extend to, consequential damage, or incidental damage or expense, including without limitation, injury to persons or property or loss of use. Please refer to our standard IPS Corp. Limited Warranty for additional provisions.

IPS Adhesives, 600 Ellis Road, Durham, NC 27703 • Toll Free: 1-800-888-8312 • Fax: 901-853-5008 **ipsadhesives.com**