WELD-ON®

TECHNICAL DATA SHEET

4SC

Low VOC Acrylic Plastic Cement

SUBSTRATE RECOMMENDATIONS

Weld-On® 4SC is formulated as a blush-resistant cement for bonding acrylic (poly-methyl methacrylate) to itself. It will also form strong bonds with other thermoplastics such as polystyrene, CAB (cellulose acetate butyrate), and polycarbonate to themselves. It is not recommended for cross-linked acrylic.

BONDING RECOMMENDATIONS

Weld-On 4SC is used extensively in sign fabrication for cementing acrylic letters to flat acrylic presentation panels and trim-capping of cut out acrylic letters. Strong butt joints are made with flat sheets by using the soak method. Weld-On 4SC is also widely used in many applications (e.g. fabrication of display and presentation cases, medical equipment assembly, the bonding of plastic containers and pre-forms, and in the manufacture of numerous solvent welded structures and subassemblies using the capillary method).

GENERAL DESCRIPTION

Weld-On 4SC is a water-thin, somewhat flammable cement formulated to quickly develop very clear and high strength bonds for many thermoplastic substrates. The bond is achieved by first softening the surfaces to be joined and then fusing them together with the dissipation of the solvent. The initial bond forms within a matter of minutes and is followed by a significant and continual increase in bond strength over the next several hours. Weld-On 4SC may be preferred by some plastic fabricators because it is less likely to leave white marks (commonly called blushing).

TYPICAL BOND STRENGTH†

Substrate Material	Aged Bond Strength, lbs/in² (kg/cm²)		
	2 Hours	24 Hours	1 Week
Acrylic (Cast & Extruded)	800 (56.3)	2,000 (140.6)	2,500 (175.8)
Polycarbonate	750 (52.7)	1,600 (112.5)	2,400 (168.7)
Polystyrene	400 (28.1)	1,300 (91.4)	2,000 (140.6)

†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):	3 Minutes
Viscosity:	Water Thin	Time to reach ultimate bond strength:	72 Hours
Working Time:	1 – 2 Minutes	Specific Gravity:	1.120 ± 0.01

DIRECTIONS FOR USE

GENERAL: Surfaces to be joined must be clean, dry, and fit intimately without forcing. Apply cement with syringe, eyedropper or brush. Assemble while parts are still wet. If cement is applied to one surface, let the two surfaces be in gentle contact for a few seconds to allow the cement to soften the dry surfaces, then press parts together in firm contact. Initial bonds form very quickly. 65 – 80% of the ultimate bond strength will be obtained within 24 – 72 hours. Strength will continue to increase for several weeks.

CAPILLARY METHOD: Parts are placed lightly together and cement is applied to the edge of the joint with syringe or eyedropper. By capillary action, the cement will flow a considerable distance, approximately 0.25 inch (0.64 cm), between two such surfaces. Allow a few seconds for the cement to soften the surfaces. Press parts firmly together.

SOAK METHOD: Vertically dip surfaces until softened (approximately 2 to 5 minutes), then join pieces firmly together.

- Although development of Weld-On 4 bond strength is slightly slower than that of Weld-On 3, ultimate bond strength will be the same.
- If crazing is a problem, we suggest you consider annealing before cementing.

AVAILABILITY

This product is available in gallon (3.785 liters), pint (473 ml) and 1/4 pint (118 ml) metal cans. For detailed information on containers and applicators, refer to the current Sign and Display Assembly Selection Guide and Price List.

SHELF LIFE

Two years in tightly sealed containers. The date code of manufacture is stamped on the bottom of the container. Stability of the product is limited by the evaporation of the solvent when the container is opened. Evaporation of solvent will cause the cement to thicken and reduce its effectiveness. Adding of thinners to change viscosity is not recommended and may significantly change the properties of the cement.

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

QUALITY ASSURANCE

Weld-On® 4SC 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 and Above: Proper Shipping Name: Flammable Liquid, Toxic n.o.s. (Methyl Acetate, Dichloromethane). Hazard Class: 3 With Subsidiary Risk 6.1. Identification Number: UN 1992. Packing Group: II. Label Required: Flammable Liquid & Toxic.
Shipping Information for Less than One Liter: Proper Shipping Name: Consumer Commodity. Hazard Class: ORM-D.

SAFETY AND ENVIRONMENTAL PRECAUTIONS

This product is a flammable, moderately 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 the reach of children. Do not take internally. Keep away from heat, spark, open flame and other sources of ignition. Contact with hot surfaces may produce toxic effects. Keep container closed when not in use. Store away from direct sunlight below 80º F (27º C). 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 these limits, use a supplied air respirator. Do not use a chemical cartridge respirator. For emergencies and other conditions where short-term exposure may be exceeded, use an approved positive pressure self-contained breathing apparatus. In confined areas, use a positive pressure self-contained breathing apparatus (SCBA). 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, safety goggles and impervious apron should be used. Carefully read Material Safety Data Sheet and follow all precautions.

Contains Methylene Chloride (75-09-2), Methyl Acetate (79-20-9) and Methyl Methacrylate Monomer (80-62-6). Methylene Chloride is considered a cancer causing material. OSHA has established special requirements for work place monitoring and protection. Extent of health risk depends on level and duration of exposure, as well as individual sensitivity. Do not use this product for other than intended use.

“Proposition 65 Warning:” This product contains chemicals known to the State of California to cause cancer.

“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**