



SUBSTRATE RECOMMENDATIONS

Weld-On® 31 is a two-component, 10:1 adhesive formulated for bonding a wide variety of substrates including metals, thermoplastic and thermoset composites. Weld-On 31 is especially suited for sign and display fabrication. The product is available in off white color.

BONDING RECOMMENDATIONS

Weld-On 31 is suitable for use in a variety of industries, including sign assembly and many others where high bond strength and resistance to extreme environmental conditions is critical. Weld-On 31 is especially suitable for bonding unprepared metals, including Aluminum, CRS and Stainless Steel; it is also suitable for bonding painted and coated metals. It has excellent adhesion to plastics such as PVC, polycarbonate, ABS, acrylic as well as thermoset composites with epoxy, polyester or vinyl ester resin matrices.

GENERAL DESCRIPTION

Weld-On 31 is a medium speed two-component 10:1 structural adhesive; when mixed on ratio and applied, it cures at room temperature to form high strength bond within minutes. The adhesive has excellent corrosion and chemical resistance, gap-filling capabilities, in addition to excellent impact and fatigue resistance. Once cured, the adhesive can be put into service even in extreme temperature conditions, from -40° F (-40° C) to 180° F (82° C). Weld-On 31 has UL 746C approval for use in electrical equipment assemblies for indoor and outdoor signage applications.

TYPICAL BOND STRENGTH†

| Tensile Lap Shear strength after 24-hour cure | | | |
|---|--------------------|-------------------------|--------------------|
| Substrate | Strength psi (MPa) | Substrate | Strength psi (MPa) |
| Aluminum | 2,400 (16.5) | Woven FRP (Vinyl Ester) | 1,750 (12.0) |
| Cold Roll Steel | 2,550 (17.6) | Woven FRP (Epoxy) | 1,430 (9.9) |
| Stainless Steel | 2,150 (14.8) | Woven FRP (Polyester) | 1,400 (9.7) |
| Epoxy Coated Steel | 2,330 (15.9) | Carbon Fiber (Epoxy) | 2,800 (19.3) |
| ABS | 800 (5.5) | Polycarbonate | 1,270 (8.8) |
| PVC | 1,150 (7.9) | PMMA (Acrylic) | 750 (5.1) |

†Bond strength data obtained using ASTM D1002, ASTM D3163 and ASTM D5868 standards. Ultimate Bond Strength is defined as strength achieved after 24-hour room temperature cure. For detailed testing information, contact IPS Technical Services.

TYPICAL ADHESIVE PROPERTIES AND CHARACTERISTICS @ 75°F (24°C)

| Characteristics | Part A (Adhesive) | Part B (Activator) | Mix (Part A + B) |
|---|-------------------|--------------------|------------------|
| Color | Off White | Off White | Off White |
| Mix ratio by volume | 10 | 1 | — |
| Density, g/cc | 1.01 | 1.18 | 1.03 |
| Working Time | 13 – 17 Minutes | | |
| Fixture Time (Time to reach 80% of ultimate strength) | 30 – 40 Minutes | | |
| Time to reach ultimate bond strength | 24 Hours | | |

DIRECTIONS FOR USE

Weld-On 31 is packaged in a dual cylinder cartridge that dispenses product in a 10:1 mix ratio by volume. The cartridge must be inserted in the dispensing gun and mixing tip attached prior to dispensing.

- Before inserting the cartridge in the dispensing gun, open nose plug and clean obstructions from cartridge nose.
- Insert cartridge into dispensing gun. Dispense a small amount of adhesive making sure that both components freely flow out of the cartridge cylinders.
- Attach the mixing tip to the cartridge. Press the dispensing gun to dispense and discard approximately 1 – 2 inches (2.5 – 5.0 cm) of the product, ensuring that the product is mixed properly in the mixing tip before use. If the mixing tip is left on the cartridge for a sufficient length of time without additional use, the adhesive may cure in the tip. If this happens, keep the mixing tip on the cartridge. When you are ready to dispense more adhesive, replace the mixing tip on the cartridge with a new one. Be sure to discard 1 – 2 inches (2.5 – 5.0 cm) of the product before use.

AVAILABILITY

This product is available in 490 ml cartridges. For detailed information on mixing tips and dispensing guns, refer to the current Sign and Display Assembly Selection Guide and Price List.

STORAGE AND SHELF LIFE

The shelf life of components A and B in unopened containers is approximately six months from the date the product is shipped from IPS Corp. facilities. Shelf life is based on steady state storage between 65° F and 80° F (18° C and 27° C). Exposure, intermittent or prolonged, above 80° F (27° C) will result in a reduction of the stated shelf life. Exposures above 100° F (38° C) during shipping or storage can quickly degrade component B in cartridges or bulk containers, and must be prevented. Shelf life of both components can be extended by air-conditioned or refrigerated storage between 55° F and 65° F (13° C and 18° C). KEEP FROM FREEZING.

QUALITY ASSURANCE

Each component of Weld-On 31 is carefully evaluated to assure that consistent high quality is maintained. Significant testing and evaluation of application and bonding characteristics are conducted routinely. A batch identification code is posted on each label providing traceability of all materials and processes used in manufacturing of this adhesive.

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

SAFETY AND ENVIRONMENTAL PRECAUTIONS

This product is a flammable, reactive adhesive. 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.

DANGER! 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 between 65° F – 80° F (18° C – 27° C). Use only in adequate ventilation. Avoid breathing of vapors. Atmospheric levels should be maintained below established exposure limit values. See Section II 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.

Component A contains Methyl Methacrylate Monomer (80-62-6). Component B contains Catalyst-Initiator and Benzoyl Peroxide (94-36-0). Do not use this product for other than intended uses.

“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. Recommendations contained herein are based on information we believe to be reliable. The properties and strength values presented above are typical properties obtained under controlled conditions at the Weld-On laboratory. They are intended to be used only as a guide for selection for end-use evaluation. The ultimate suitability for any intended application must be verified by the end user under anticipated test conditions. Since specific use, materials and product handling are not controlled by Weld-On, our warranty is limited to the replacement of defective Weld-On products.

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.

Limited Warranty: Seller warrants to the original Buyer of the goods that all new Seller goods shall be free from defects in material and workmanship for the published shelf life of the good. If any Seller good fails to conform to this Limited Warranty under normal use and storage conditions, and if the original Buyer complies with the terms of this Limited Warranty, then Seller will, without charge to Buyer, replace the nonconforming good.

This Limited Warranty shall not extend to, nor shall Seller be responsible for, damages or loss resulting from accident, misuse, negligent use, improper storage, or improper application.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES. SELLER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, AND EXPRESSLY DISCLAIMS ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ARISING FROM A COURSE OF DEALINGS, AND/OR FROM USAGE OF TRADE.

SELLER SHALL NOT BE LIABLE IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR OTHERWISE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES.

