



TECHNICAL DATA SHEET

AT-6030

Weld Mount AT-6030 adhesive is a two-component, 10:1 mix ratio structural adhesive with outstanding adhesion for bonding metals, carbon fiber, composites and most plastics. Most metals can be bonded without priming. This advanced product is designed to meet specific requirements of the transportation industry, including reduced read through on show surfaces. The combination of minimum surface preparation, primerless metal bonding and low read through makes AT-6030 ideal for a variety of assembly operations. AT-6030 is packaged in 40ML cartridges for use with our AT-300 dispensing gun and AT-650 mixing tips.

Features & Benefits

- ✓ Primerless metal bonding
- ✓ Reduced read through
- ✓ Good environmental resistance
- ✓ Non-sag formulation
- ✓ Excellent strength
- ✓ Impact resistant
- ✓ 100% reactive
- ✓ Room temperature cure
- ✓ Easily applied

AT-6030 bonds to:

METALS:

- Aluminum
- Steel
- Stainless steel
- Coated metals

THERMO PLASTICS:

- Acrylics
- ABS
- Polycarbonates
- PVC's

THERMO SETS:

- Fiberglass
- Phenolics
- Gel coats
- Epoxy
- Liquid molding resins
- SMC
- Styrene's
- Peek's
- PBT Blends
- PET Blends



PHYSICAL PROPERTIES (UNCURED)

Viscosity @ 25° C (cps)	Mixed	200,000 CPS
Specific Gravity		1.02 (20/20°C)
Color		Black
Toxicity	Moderate	See MSDS
Solvents	None	
Fillers	Yes	
Flashpoint	51° F (COC Method)	
Clean Up Solvents	MEK, Acetone	

PHYSICAL PROPERTIES (CURED)

Strength (PSI Alum)	Lap Shear	2,800 PSI (14 -15)
Max Tensile Elongation		100% - 125%
Modulus psi (mpa)	(207 - 276)	30,000 - 40,000
Lap Shear Strength	PSI (mpa)	2,500 - 2,800 (17-19)
Service Temperature	0.250 Inches	-40 to 180 (-40 to 82)
Working (Open) Time	5 to 6 Minutes	
Fixture Time	10 to 12 Minutes	
Handling Strength	45 minutes for 80% overall strength	



Typical Packaging

AT-6030 is conveniently packaged in 40 ml cartridges. Special packaging is available on request.



Storage & 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 Associated Technologies facility. Shelf life is based on steady state storage between 55°F and 80°F (13°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 50°F and 65°F (10°C and 18°C). KEEP FROM FREEZING.



Clean Up

Adhesive components and mixed adhesive should be removed from surfaces with a suitable industrial solvent or cleaner before the mixed adhesive cures. Once the adhesive cures, soaking in a strong solvent or paint remover will be required to soften the adhesive for removal. Any clean-up of the bonded assembly using industrial solvents is not recommended as it could affect the cure.

Technical Data Sheet

Dispensing Equipment

The use of AT-300 adhesive dispensing gun and AT-650 static mixing tips is recommended to insure proper mixing.

Safety and Handling

Read Material Safety Data Sheet before handling or using this product. Adhesive components contain methyl methacrylate monomer and are flammable. Always use in a well-ventilated area. Floor-level extraction and large quantities of moving air greatly facilitate ventilation. 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.

Surface Preparation

The need for surface preparation must be determined by comparative testing of prepared and unprepared substrates to assure that unprepared bonding is equivalent to or acceptable for the application relative to prepared bonding. Initial bonding tests must be followed up with simulated or actual durability tests to assure that surface conditions do not lead to degradation of the bond over time under service conditions. Subsequent changes in substrates or bonding conditions will require re-testing. Prepare metals for bonding by removing dust, loose scale, rust, and other surface residue including oil and grease. For maximum bond strength on steel, abrade surface prior to bonding.

Substrate Suitability

The user must determine the suitability of a selected adhesive for a given substrate and application. Associated Technologies strongly recommends laboratory, shop and end-use testing that simulates the actual manufacturing and end-use environment. Most thermoplastics can be bonded with no surface preparation other than a dry wipe or air blow-off. If contamination is visible or suspected, wipe with alcohol prior to bonding. Polyolefins, thermoplastic polyesters, fluorocarbon plastics and other low surface energy plastics are generally not bondable. Testing is required on thermoset plastics because of the wide variations in compositions

Curing

Open working time is the approximate time after mixing components A and B, depending on bonding conditions, that the adhesive remains fluid and bondable. Fixture time is the approximate time after mixing components A and B required for the adhesive to reach the partial state of cure necessary to allow careful movement, unclamping or de-molding of assembled parts. Parts can generally be put in service when 80 percent of full strength is developed. The time to achieve 80% cure is approximately 2-3 times that required for fixturing. The working and fixture times presented in this bulletin are based on laboratory tests performed at 75°F/24°C. Higher temperatures speed the curing reaction and reduce open working time. The reverse is true for lower temperatures. If significant variation in temperatures or application at very high or low temperatures is anticipated, contact your ASSOCIATED TECHNOLOGIES representative for technical assistance.

Effects of Temperature

AT-6030 is best used at temperatures between 65° F and 80° F. Temperature below 65° F will slow the cure speed of the material and the viscosities will be higher. Temperatures above 80° F will cause the material to cure faster and the viscosities will be lower. For consistent dispensing maintain temperature as listed above.

Mixing and Application

EXOTHERM: 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.

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Application

Follow instructions provided or contact Associated Technologies for proper preparation of dispensing equipment and substrates prior to starting the bonding process. Always dispense a quantity of adhesive at start-up to assure that the adhesive exiting the tip of the mixer is the proper color and is uniform, without streaks. If aged material is being used, allow the purged material to cure to assure quality before proceeding. Carefully dispense a sufficient quantity of adhesive on the substrate to assure that the bond gap will be completely filled when the parts are mated. Allow for squeeze-out at the edges of the bond to assure filling. Carefully secure or clamp parts to prevent joint movement while the adhesive sets. Do not apply excessive pressure that can cause excessively thin gaps and starve the bond line. If in doubt, use shims or spacers to set the gap. A minimum gap of 20 mils (0.02 inch) is recommended for all other adhesives. Test the curing adhesive at the edges for fingernail hardness before removing clamps or fixtures. If clean up of the adhesive from the bonded area is required, we recommend that it is carefully performed using alcohol or other preferred industrial solvent while the adhesive is still wet or soft. Partially cured adhesive can be carefully removed with a sharp knife. Cured adhesive must be sanded or scraped, using a suitable solvent to remove remaining traces.

Bonds are generally resistant to the effects of heat, water and moisture, aqueous chemicals and most petroleum hydrocarbons, including gasoline, motor oil and diesel fuel. Not recommended for immersion or long term exposure to concentrated acids or bases, or aggressive organic solvents such as toluene, ketones, and esters. It is the user's responsibility to determine the suitability of each adhesive for its intended use and application.

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