TOTALBOAT THIXO WOOD 2.0

- Wood-colored, thickened 2:1 epoxy adhesive adheres strongly to all types of wood
- Two-part thixotropic epoxy adhesive
- Made with more than 25% renewable materials
- Each cartridge comes with two static mixing tips
- Can be used above or below the waterline
- Thixo Wood 2.0 comes in 185ml cartridges that fit most standard caulk guns

TotalBoat Thixo Wood 2.0 is a two-part wood epoxy adhesive that cures to a dark brown, wood-colored finish, perfect for wooden boat filleting, and stitch and glue bonding. Included mixing tips ensure perfect resin to hardener ratio. 185 ml cartridge fits most standard caulk guns.

CLEANER/SURFACE PREPARATION: Acetone, denatured alcohol, TotalBoat Eco Solvent.

CLEANUP: Denatured alcohol or acetone. Once cured, it must be removed mechanically.

THINNER/REDUCER: Do not thin Thixo Wood 2.0.

MOLD RELEASE AGENTS: Mold release paste wax, aerosol mold release agents.

PRIMER: No primers are necessary.

APPLICATIONS: Bonding, structural epoxy adhesive, filleting, small gap filling, bonds where dynamic stresses are present, adhesive for substrates that are generally tough to bond.

ACCEPTABLE SUBSTRATES: All species of wood – also forms a strong bond to fiberglass, properly prepared metals, brick, concrete, glass, slate, tile, stone

CAULK GUN (REQUIRED FOR USE): 185ml cartridges fit most standard caulk guns that allow for an offset nozzle. Guns that only have a small, centered hole for the nozzle will not work. An 8:1 mechanical advantage, or higher, is strongly recommended.

SAFETY AND PERSONAL PROTECTIVE EQUIPMENT:

Always use proper safety equipment, clothing, and PPE in accordance with the Safety Data Sheet for each product.

EXOTHERMIC REACTION!

The cure of TotalBoat Thixo Wood 2.0 is an exothermic reaction and will generate heat. Though Thixo Wood 2.0 is generally applied in thin films or smaller applications, it is not uncommon for a larger mass of mixed Thixo to reach 200°F or higher during the cure cycle.

SURFACE PREPARATION:

All surfaces need to be free of any potential contaminants. Surface contamination will reduce or compromise Thixo Wood 2.0's bond strength to any substrate. If any surfaces are to be sanded before applying Thixo Wood 2.0, always remove all surface contaminants prior to sanding or abrading the surface. Contaminants can include dust, dirt, grease, moisture/ water, oil, or wax.

- **IMPORTANT!** Only use clean cotton rags for surface preparation. Synthetic rags can leave a film of contamination if they come in contact with some solvents.

WOOD:

- The wood's moisture content should be less than 10-12% before bonding with Thixo Wood 2.0 to achieve the best bond.
- Remove all surface contamination by wiping the surface with a rag dampened with one of the surface preparation solvents.
- For applications with oily hardwoods and white oak, using acetone as the solvent wipe has proven to allow the epoxy to achieve a stronger bond.
- Allow any solvents to evaporate completely.
- Abrade the area of the wood that is to be bonded with 80-grit (or coarser) sandpaper.
- Remove all sanding residue and wipe the surface clean using one of the specified solvent wipes.
- Allow the surface to dry completely prior to applying Thixo Wood 2.0.

FIBERGLASS:

- Fiberglass substrates may have wax or amine blush on the surface, depending on the resin system they're made with, and application methods.
- Any amine blush needs to be removed with fresh, warm water and a mild soap.
- Dry the surface completely. Any waxes need to be completely removed with a dewaxing product.
- After the surface has been cleaned of all potential surface contamination, grind the surface or abrade it with 80-grit (or coarser) sandpaper and remove all sanding residue. Then wipe with a clean cotton rag dampened with one of the specified surface preparation solvents. This will provide a rough surface for Thixo Wood 2.0 to achieve the best mechanical bond.
- Allow the solvents to evaporate completely and apply Thixo Wood 2.0.

EPOXY:

- The cure of epoxy materials can create an amine blush on the surface of the cured material, even if the epoxy being used is considered 'non-blushing'.

- Remove any potential amine blush by washing the surface with fresh, warm water and a mild soap. Dry the surface completely.
- Wipe the surface with a clean, dry cotton rag dampened with one of the specified surface preparation solvents.
- After the surface has been cleaned of all potential surface contamination, grind the surface, or abrade it with 80-grit (or coarser) sandpaper and remove all sanding residue. Then wipe with a clean cotton rag dampened with one of the specified surface preparation solvents. This will provide a rough surface for Thixo Wood 2.0 to achieve the best mechanical bond.
- Allow the solvents to evaporate completely and apply Thixo Wood 2.0.

METALS:

- Remove all surface contamination by wiping the surface with a rag dampened with one of the surface preparation solvents.
- Grind or sand the surface with 80-grit or coarser sandpaper, leaving it shiny and rough. Remove all sanding residue and wipe the surface again with a clean cotton rag dampened with the surface preparation solvent.
- Allow the surface to dry completely.
- Apply Thixo Wood 2.0 as soon as possible, Thixo Wood 2.0 must be applied to the prepared metal surface in less than 60 minutes after abrading.

STONE:

- Stone materials should always be dry and free of any dirt, dust, or other residue.
- Do not attempt to bond stone that has recently been submerged in water for a long duration, if possible.
- Clean the stone by wiping with one of the appropriate surface prep solvents.
- Allow the stone to dry completely before applying Thixo Wood 2.0.

MASONRY:

- Masonry can be bonded with Thixo Wood 2.0, but, for best results, it is extremely important to ensure that the masonry has been left to dry for an extended period of time, before applying Thixo Wood 2.0.
- Masonry can trap a lot of moisture, which can compromise the bond of Thixo Wood 2.0 during periods of dramatic pressure change, or enduring freezing-to-hot temperatures.
- Clean the surface of any dust, debris, or loose material.
- Sand or abrade the surface where the masonry is to be bonded. Remove any sanding residue and wipe with one of the recommended surface preparation solvents.
- Allow the solvents to evaporate completely and apply Thixo Wood 2.0.

CONCRETE:

- Remove any loose dust or debris from the surface that is to be bonded, as well as any other surface contamination.
- Do not attempt to bond new concrete, or concrete that is sweating or emitting a lot of moisture.
- Sandblasting, or otherwise abrading the surface where it is to be bonded, will help provide a great base for a mechanical bond.
- Etching the concrete with a concrete etch material (as directed) will also prepare the surface to accept the epoxy, helping to generate a very strong bond.
- If the surface was etched, ensure that the surface is completely dry before applying Thixo Wood 2.0.
- Allow the solvents to evaporate completely and apply Thixo Wood 2.0.

GLASS:

- Remove all surface contamination by wiping the surface with a rag dampened with one of the surface preparation solvents – denatured alcohol is preferred for glass surfaces.
- Allow the solvents to evaporate completely and apply Thixo Wood 2.0.

APPLICATIONS:

Bonding: Thixo Wood 2.0's strength, thixotropic properties, and good working time make it a dynamic adhesive for many bonding applications. Thixo Wood 2.0 is safe to use below the waterline, or for structural applications, when the cured physical properties are adequate.

Filleting: When bonding two items that are perpendicular, or at an angle, with Thixo Wood 2.0, apply the epoxy between the two items that are to be bonded. Then when they are set in position, run an additional continuous bead of Thixo Wood 2.0, roughly 1/8"-1/4" thick, in the corner of the joint. A rounded tool, such as a wooden tongue depressor, can be run along this bead to evenly spread the Thixo Wood 2.0 with the rounded profile, making it uniform and aesthetically clean looking. This fillet adds extra rigidity and stability by increasing the surface area of the bond.

Gap Filling: Thixo Wood 2.0 can be used as an epoxy gap filling material for gaps up to ½" in thickness. For any gaps wider than ½", apply Thixo Wood 2.0 in layers, allowing the epoxy to become firm but slightly tacky with each coat before applying the next one, or allow it to cure completely, sand the surface and apply the next coat.

DISPENSING & MIXING:

Application Conditions: Thixo Wood 2.0 should only be dispensed when the ambient temperature, temperature of the epoxy itself, and the temperature of the substrate being

bonded are above 55°F. For optimal bond strength, the relative humidity should not exceed 90% for the first 24 hours of the cure process. Curing Thixo Wood 2.0 outside of these conditions may slow the rate of cure, or compromise some physical properties of the cured epoxy.

Warming the Cartridge: In cooler ambient conditions below 65°F, it is recommended to warm the cartridge to 75-90°F before use, as the liquid components in the cartridge can become very thick and difficult to dispense easily. Caulk guns with 8:1 or 10:1 mechanical advantage may not provide enough force to easily dispense Thixo Wood 2.0, under cool conditions, without warming the cartridge first.

Caulk Gun:

Use an appropriate caulk gun to dispense Thixo Wood 2.0. For ease of application, ensure that the caulk gun meets the minimum recommended mechanical advantage.

Mix Ratio:

The mix ratio of Thixo Wood 2.0 is 2:1 (resin:hardener). Thixo cartridges are constructed with the internal mechanics to automatically dispense at the rate of 2 parts resin, for every 1 part of hardener.

Static Mixing Tips:

- Thixo can be dispensed with or without the static mixing tip threaded on the cartridge. The static mixing tips blend the two components as they come out of the cartridge, ensuring that the bead of epoxy that is dispensed from the tip is completely mixed and ready for use.
- The tip of the static mixing tip can be trimmed to the desired diameter.
- Unscrew the threaded cap, remove the plug from the Thixo cartridge, and thread on a new static mixing tip.
- Dispense 3-4" of bead as WASTE MATERIAL. DO NOT use the first few inches, as it may be resin or hardener rich.
- After use, do not attempt to clean or reuse static mixing tips.
- Allow the epoxy to cure in the tip, on the cartridge. Simply replace the static mixing tip when the cartridge is used the next time.

Dispensing Without a Static Mixing Tip:

- Remove the threaded cap.
- It is strongly advised to use a marker or some other method to indicate the orientation of the plug if it is to be put back on the cartridge later.
- Ensure that the epoxy is mixed thoroughly, until it has an even color and texture.

Curing:

Cure rates are dictated by the ambient temperature, the temperature of the substrate, and the mass of epoxy that was applied. The gel time of Thixo Wood 2.0 in 150g mass is roughly 50 minutes at 77°F, while thin-film applications will take longer. Thixo Wood 2.0 can be sanded, or used for light-duty applications in roughly 24 hours. Full cure is roughly 5-7 days. Warmer conditions will shorten these cure times, while cooler conditions will extend them.

Clamping:

The recommended clamp time for Thixo Wood 2.0 is 24 hours. The natural tendency is to clamp with a lot of pressure, but this method squeezes all of the epoxy out of the glue joint, making the joint weak. Take extra care not to over-clamp items, and ensure that there is a thin film of Thixo Wood 2.0 between all items being bonded.

PRODUCT STORAGE:

- Store Thixo products between 60-90°F, sealed tightly, in a dry place, before and after use.
- Do not store Thixo products on the floor, or near windows/doors that may expose the Thixo cartridge to cooler conditions.
- Storing Thixo Wood 2.0 under cooler conditions, or exposing the epoxy in the cartridge to dust and humidity, can increase the risk of crystallization.
- If the original plug for the cartridge is to be put back on the cartridge after use, take extreme care not to put the resin plug on the hardener side, or vice versa. Marking the plug before removing it the first time can help prevent this.
- For applications where a static mixing tip is used, leave the static mixing tip on the cartridge after use, and allow the epoxy to cure in the tip. The epoxy will not adhere the mixing tip to the cartridge. The cured epoxy in the mixing tip will form a seal, protecting the epoxy inside the cartridge. It is not viable to try and clean out static mixing tips after use. When the product is used next, simply unscrew the static mixing tip that was on the cartridge, and install a new, unused one.

CRYSTALLIZED EPOXY:

- Crystallization can occur in the liquid resin or hardener components of epoxy, and can present itself as a gritty texture, cloudiness, or as being much thicker in consistency than it should be.
- Epoxy that has crystallized should not be used until the crystallization has been resolved.
- Warming the liquid epoxy to 125-150°F will rectify the crystallization in the epoxy, turning it back to the consistency it is supposed to have, and making it ready to use again.
- The most common way to warm a Thixo Wood 2.0 cartridge is to insert the cartridge into a sealable plastic bag, and place it into a bowl or basin of warm water (not boiling). Change out the water, as needed. This may take

30-90 minutes, until all contents of the cartridge are at least 125°F.

- Following proper storage conditions is the best way to prevent crystallization.

APPLICATION DATA:	
Application / Epoxy Type:	Adhesive, bonding, sealing, filling
Application Film Thickness:	Thin film up to 1/2"
Application Temperature/RH:	Minimum of 55°F, 0-90% Relative Humidity
Working Time	60 minutes @ 77°F (thin film/bead)
Gel Time:	50 minutes @ 77°F (150g mass) (ASTM 2471)
Clamp Time:	24 hours @ 77°F (minimum)
Minimum Cure For Use (@ 77°F):	24 hours (light duty), 72 hours (heavy duty)
Full Cure Time:	5-7 days
Resin Density:	9.2 lbs./gallon @ 77°F
Hardener Density:	8.4 lbs./gallon @ 77°F
Mix Ratio (by Weight):	100A:46B (Calculated)
Mix Ratio (by Volume):	2A:1B (Calculated)
Sag Resistance:	3/8" (Vertical Surface)
Mixed Viscosity:	Thixotropic (ASTM 2196)
Shelf Life:	At least 1 year (under proper storage conditions)

PHYSICAL DATA:	
Cured Color/Finish:	Brown
Components:	Two – Resin (Part A), Hardener (Part B)
Units:	185ml
UV Stable:	No
Tensile Strength:	7,200 psi (ASTM D638)
Tensile Modulus:	437,000 psi (ASTM D638)
Tensile Elongation:	6.2% (ASTM D638)
HDT (Room Temperature Cure):	124°F (ASTM D648)
HDT (Post Cure):	132°F (ASTM D648)
Compressive Strength:	9,800 psi (ASTM D695)
Flexural Strength:	10,100 psi (ASTM D792)
Flexural Modulus:	413,000 psi (ASTM D790)
Volumetric Yield/Coverage:	Roughly 59' of bead @ 1/8", or 175 sq. in. spread @ 1/16" thickness (not accounting for waste)
Volumetric Shrinkage:	3.5% (ASTM D792/D1475)
Hardness:	82 Shore D (ASTM D2240)