APPLICATION INSTRUCTIONS

Thank you for purchasing your KeelGuard. You are now part of a family of thousands of boat owners who have discovered the pleasure of worry-free boating. With proper installation, you too will enjoy years of carefree boating. The KeelGuard is a very simple product to install; however, the following instructions must be strictly followed. Any short cuts or missed steps will jeopardize and compromise the full bonding capabilities of the 3M adhesive.

IMPORTANT!
A keel protector is **NOT** recommended in the following applications:

- if your trailer is designed with the boat resting on center rollers or a support beam along the keel. If the rollers can be lowered or the side bunks raised to clear the roller, the KeelGuard adhesive bond will not be compromised.
- on aluminum boats designed with a raised reinforced center rib, large rivets, or any hull design where a full surface bond is unachievable.
- on hulls with a non-standard V-shape or with aggressive complex angles found on some canoes, kayaks, pontoons, catamarans, and some modern personal watercrafts.
- on vessels made from LSE (low surface energy) plastics, such as polypropylene and polyethylene (kayaks, canoes and some PWC's).
- on boats using floating docks where the entire weight of the boat rests on the keel or where the rear of the guard could snag during launching.

Please call with any questions regarding your specific application.

Remember, the bond is only as good as the surface to which it is applied. Severe damage to your boat's keel, repairs that have not been done professionally, or any paint or gelcoat that may not have the proper bond to the boat's original surface can cause separation of the KeelGuard, taking any loose or improperly prepared paint or gelcoat with it. It is important to have a good solid surface before you start.

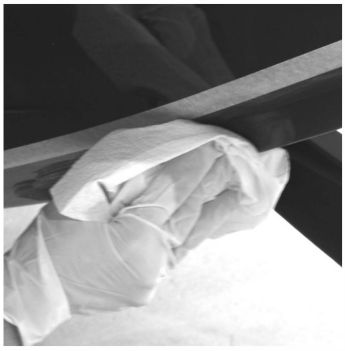
3M recommends the adhesive should **not** be applied when temperatures are below 65° F or above 100° F. This specifically applies to the temperature of the boat hull, not necessarily the ambient air temperature. If the boat is stored outside in cooler weather, we recommend bringing it into a warm shop or garage and leaving it overnight, giving the boat sufficient time to rise to an acceptable temperature. It is important that the KeelGuard and the boat hull are at the same temperature during the application process.

The KeelGuard should be mounted at least 4-6 inches above the waterline on the bow, ending at least 2-3 feet beyond the lowest point of the keel. If protection is required above the bow eye, a separate BowGuard is available in 1-3 foot lengths. We also offer stainless steel BowGuards to protect against marring from the trailer roller or V Brace.

Installation consists of four basic steps.
1) ETCH 2) CLEAN 3) PRIME 4) APPLY
Average installation time is 60-90 minutes depending on the length of the KeelGuard. Each kit includes everything needed for a professional installation **except** the cleaning agent, isopropyl alcohol, used in step 2.

STEP 1: ETCH
Etch the surface where the KeelGuard will be installed. Any fiberglass mold release agents and wax must be removed. This step is **extremely** important and must be done thoroughly so that the full bonding qualities of the 3M adhesive can be realized. The removal of the release agent or any other contamination is best accomplished by using the 3M Scotch-Brite pad provided in each kit. For an even cleaner looking installation, you can mask the area surrounding where the KeelGuard will be installed. Measure out a 5 inch wide area or use

the KeelGuard as a template. Center the guard and mark approximately every 2 feet down each side with a pencil, using these marks to align the masking tape. The tape can be left on during the cleaning and priming steps, and will be useful in keeping the KeelGuard centered. The supplied pad is a mild grit and will not damage the keel's gelcoat or paint. If you have access to a DA sander, this can be used instead of the Scotch-Brite pad. **Do not** use anything stronger than 180 grit sandpaper. If your boat has anti-fouling boat bottom paint applied, it must be removed to expose the original gelcoat where the KeelGuard will be installed.



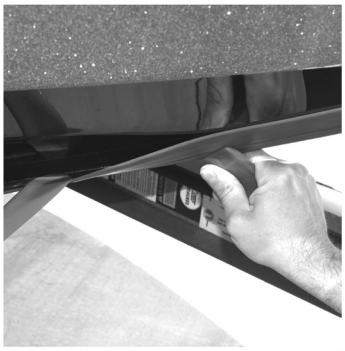
STEP 2: CLEAN

Thoroughly clean the area with isopropyl alcohol using paper towels or a clean rag. Repeat until there is no sign of residue. **Do not** use paint thinner or other petroleum based cleaners as they will compromise the bond of the adhesive. Always remember to wear protective gloves.

STEP 4: APPLY

The adhesive has a red protective liner that has been scored approximately 1 inch wide down the center to aid in centering the KeelGuard. Pull back the center liner approximately 8-10 inches exposing the 3M adhesive. **Do not** touch the adhesive with your hands, as any contamination may compromise the bond. Carefully center the KeelGuard along the keel, and press it firmly in place using your hand or the supplied burnishing tool. (Once the adhesive touches the primed surface it becomes a permanent bond and will not release without tearing the adhesive.) Continue to align the KeelGuard and peel back the center strip until the entire center of the KeelGuard is attached to the boat.

Starting at the bow, working in 2-3 foot sections, pull back the protective liner on either side of the KeelGuard and begin pressing it on with the burnishing tool. Work from the center out to ensure no air is trapped between the hull and the adhesive. If you are applying the KeelGuard over chines or lifting strakes, leave approximately 2-3 inches above the strake unattached. Press and bond under the strake first, then press the unattached 2-3 inches, working down toward the strake. This will help relieve tension of the material when going over irregular or protruding surfaces. Continue working toward the rear until completed. Repeat the process for the other side of the KeelGuard.



Once fully attached, use the burnishing tool to apply additional pressure to the entire KeelGuard ensuring the pressure sensitive adhesive is firmly attached to the boat. A rubber mallet may also be used to apply even more force to the 3M adhesive. You are now finished and ready to enjoy worry-free boating. No curing time is required, and your boat can now be put in the water.