

# Blacktail™

*Premium Wood Finish*

## Professional Clearcoat System



### Product Part numbers:

- **Professional Clearcoat** —(Part # BT-C01)
- **Clear Activator** — (Part # BT-A01)
- **Liquid Flattening Agent** —(Part # BT-F01)

### Mixing:

- **Mix 1:1 (No reducer needed!)** mix thoroughly. Can use MEK to reduce for cold temperature applications.
- **Pot life after mixing:** 90 minutes. No induction time, you can begin spraying immediately.

**Spray gun recommendation:** HVLP gravity feed touch up gun (with 1.0-1.4 tip size, depending on flow rate desired).

- Buy a good quality spray gun and you will be much happier with your final results. Most touch-up guns have a 4–5 oz. cup which provides more than enough capacity to spray multiple bows. These smaller spray guns are lighter in the hand and their size is more convenient for final cleanup.

**Air Pressure:** Consult your spray gun manufacturer's User Manual recommendations. Typically 50-60 lbs.

**Paint filter for Final Coat only:** 190-micron minimum

**Booth and finish temperature:** 60 degrees min. 70-75 degrees recommended.

**Recommended mixing amounts:** These initial recommendations are a 'ballpark' guide only, in order to help you minimize waste. Once the finish material has been mixed, you will have 90 minutes to use the amount you have prepared. Use these recommendations initially and pay attention to the amount of material you have left over or under, in order to determine the optimal amount needed in the future, (based on the surface area of the bows you are spraying).

- **Average take-down and or full size one-piece recurve bows:** Use approximately 0.75 oz. of mixed material per coat. If spraying (3) build coats, for example, mix approximately 2.25 – 2.5 oz. total per bow.
- **Average longbow or small handle recurve:** Use approximately 0.5 oz. of mixed material per coat. If spraying (3) build coats, for example, mix approximately 1.5 oz. per bow.

**Bow Preparation:** After you have completed the final shaping and sanding of the bow, we recommend blowing the components or bow parts with high-pressure air only. No tack cloth. We do recommend lightly wiping the clear fiberglass surfaces with lacquer thinner or suitable wax/grease remover on a clean rag to break the static bond of the fine dust. Do not touch your wood surfaces with lacquer thinner! After lacquer thinner dissipates you are now ready to spray.

**Spraying:** The objective of following the process explained below, is to limit your sanding to just (2) sanding sessions per bow for the entire process. You will prepare the gloss mix for all sealer and mid-coats. An additional or 3<sup>rd</sup> sanding session is sometimes necessary with extremely porous woods. However, as a general rule, if you follow the procedure in this information, only (2) sanding sessions should be needed (for most woods). If a satin finish is desired, the satin mix will be prepared (with flattening agent added) for the final coat only. Use filter and/or dryer on compressed airline system to prevent water and/or oil from contaminating surface during spray gun use.

## **BOW RISER SECTION:**

**Sealer and initial build coats (raw or bare wood):** Adjust gun pressure so you can apply the clear slick coat. Apply 1<sup>st</sup> coat then wait 10-30 minutes between each follow-up coat. If (after the 3<sup>rd</sup> coat) you find small areas of deep pores or thin spots from the previous coats, you may spot spray those areas after another 30-minute interval. Do not continue to recoat all surfaces only spot in the needed areas. This will save both material and sanding time. This is a 'high solids' product, resulting in a high build finish. With proper gun setup, it will adequately fill all of the wood pores on the initial coats. Sanding will thin the finish layer back down, smoothing and leveling the base coats. Always turn the exhaust fan off after overspray is gone!

## **BOW LIMBS:**

**Sealer and initial coats (applied to raw or bare wood and fiberglass):** Apply (2) even wet slick coats over entire limb surfaces, waiting 10-30 minutes between coats. After another 10-30 minutes apply a third coat to exposed wood areas such as tip overlays and wedges, only if necessary. Use your judgment based on the porosity of the wood. Generally, sides of limb cores (of bamboo) and fiberglass limb/backing surfaces do not need a 3<sup>rd</sup> coat —provided first two coats are applied evenly (thick enough). Again, if you see thin spots only spray those spots do not continue to coat entire surface.

**First sand:** Your initial build coats will be ready to sand in 18- 24 hours. Use 220 grit by hand or a combination of hand sanding and random orbital or DA sander. Sand the finish very thin to the point of level. Be very careful to minimize or avoid bare spots. When sanding is complete, you should have a very thin, even, and uniform surface with minimal exposed wood pores left to fill. Your next coat will only be as good as the surface you prepare underneath.

If you have runs or sags, remove them carefully by concentrating your sanding on the run or sag. Once sanding is complete, use high air pressure to blow all sanding dust from the surfaces. Do not use a tack cloth or lacquer thinner! If you find 220 grit to be too aggressive, you may sand with a 320 grit paper instead.

**Important Tip:** When sanding bare wood, it is always the rule to sand with the grain of your wood. However, once you begin the first sand on your initial build coats of finish, you may find sanding cross grain (especially on very porous woods) can often produce better results. This will help level the surface and not dig out or elongate the wood pores. Generally, just sand in the directions that produce the best results regardless of the grain direction of the wood. If you accidentally go through the finish and expose wood you will need to sand with the grain in the exposed area.

**Mid coats:** Apply slick wet even coat, wait 10-30 minutes and apply a second coat. The objective here is to fill the 220 or 320 grit sanding scratches and fill any small remaining pores. Spray lightly on your fiberglass surfaces, as it does not require heavy coats to fill the sanding scratches nor is it desirable to put thick coats on your limb surfaces. If after (2) coats, you can see thin spots or lingering pores, wait 10-30 min and spray only those spots. If you spray this area correctly you should have a near perfect even surface to prep for the final sanding session. Always turn exhaust fan off after overspray is gone!

**Final sand:** The final sanding session should be done by hand or a combination of hand and random orbital or DA sanding. Use 400 grit dry paper. If you have a run or sag you can use 320 grit paper to help remove the high spots, then follow-up with 400 grit. When done correctly, the surfaces will be very even and smooth with no remaining pores or shiny spots. Be especially careful on sharp edges with your sanding, as it is easy to sand all the way through the finish. Once sanding is complete, use high air pressure to blow all sanding dust from the bow. Do not use a tack cloth or lacquer thinner!

**Final Satin Coat:** Please refer to Liquid Flattening Agent instructions before using. The total amount of material needed will be the total sum of (3) parts:

- Clearcoat
- Activator
- Liquid Flattening Agent

**For example:** Mix equal parts Clearcoat and Activator (0.5 oz. of each), plus 0.4 oz. of Flattening Agent (needed to achieve the Satin sheen) equal to a total mix of 1.4 oz. Depending on the gun used, this should be enough finish for the final coat needed to complete a longbow or most recurve bows. It is advisable to mix slightly more than you may need for your final coat, in order to ensure you have enough material. Running out of material and having to mix a small additional amount to complete the final coat, could result in a mismatched sheen. It is also recommended to turn up the gun trigger air pressure slightly (5-10 lbs.), as the Flattening Agent will slightly thicken the overall mix viscosity. Fine atomization will give you a nicer final coat. Always run your final mixed finish through a 190-micron filter. This will be a one-coat application. The satin will begin to flash over in 5-10 minutes and if you see thin spots, you can go back and spot-spray or fog-in those thin areas almost immediately. Conclude the process with an even slick wet coat that will complete final finish process when dry. Always turn exhaust fan off after overspray is gone! The final coat, applied with the use of the Liquid Flattening Agent, will require a full 24 hours to lay down into a silky smooth surface, cured to full strength in four days.

**Important Tip:** With exhaust fan on, before you begin to spray finish, use your gun with a slight trigger pull. That will start the release of air only. You can use this air to quickly blow the entire bow or the individual components to remove any remaining lint or dust before you begin to apply material.

**Final Gloss Coat:** Bow must be prep-sanded with no less than 400-600 grit paper. This preparation can be done by hand sanding, or a combination of both hand sanding and random orbital sanding. For best results, the final sanding must remove all remaining pores, imperfections and shiny edges. Again, the topcoat will only be as good as the underlying surface you are coating. If your prep and sanding is done well and all pores are level, a single wet coat may be sufficient. Remember keep coats on the fiberglass surfaces to a minimum. Filter your final coat through a (190 micron) paint filter. If you need to spot in or apply another coat, do so after 30 minutes of first coat application.

For best results, let dry a minimum 4 days before you begin the cut and buff process. For optimal results, allow finish to cure for (4) days in order to reach full hardness, prior to beginning the cut and buff process. Cut and buff is absolutely necessary to achieve a perfect gloss finish. It is a time consuming process. Our finish is designed to accommodate a cut and buff treatment (unlike epoxy), in order to achieve a truly flawless high-gloss finish.

**Clean up:** Lacquer thinner is all that is needed for cleanup. The quick method is to dump remaining finish from the spray gun and add about 1.5 oz. of lacquer thinner. Shake the gun to remove finish from the lid and sides of

the gun and shoot the lacquer thinner through the nozzle to flush clean. Dump remainder and dispose of properly. Then add approx. 2 oz. of clean uncontaminated lacquer thinner to cup and pull trigger (without air) for a couple of seconds over a waste catch basin in order to clean/flush the tip. If you are spraying daily, you can leave the clean lacquer thinner in the cup overnight and remove before spraying the next day. It is a good practice to unscrew the air nozzle from the gun and place it in the cup of lacquer thinner overnight. The next day, you can save the clean lacquer thinner from the gun and reuse for more cleanup

If you have spilled finish over the sides of the cup or on the gun, a clean rag with lacquer thinner can be used to wipe it clean. If the gun gets dirty or build up develops over time, it can be disassembled and the vital parts soaked in a cup of Lacquer thinner for 30 minutes to soften and remove. A plastic bristle brush (often provided with your spray gun) will aid in cleanup as well. Tip and air passages around the nozzle must remain clean and open in order to spray the correct/even pattern.

### **Blacktail Flattening Agent Instructions:**

Blacktail Flattening Agent (Part Number: #BT-F01) is a semi-gel type liquid additive that utilizes the finest raw flattening agent materials available. This product is very high strength and stays in suspension extremely well. It is critical that this product is **well shaken** before adding to the clear finish mix.

No reducer is needed. It will slightly thicken the viscosity of the clear finish mix and if desired, the trigger air pressure can be slightly adjusted up 5-10 lbs.

**Mixing:** Mix 1:1 Clearcoat to Activator first, then add Flattening Agent. Make sure Flattening Agent is mixed thoroughly before each use! Gradually add to desired sheen level.

#### **Mixing guide: (Clearcoat and Activator proportions are always 1:1)**

- **Dead flat: (1 Clearcoat) : (1 Activator) : (1 Flattening Agent)**
- **Satin: (1 Clearcoat) : (1 Activator) : (0.75 Flattening Agent)**
- **Semi-gloss: (1 Clearcoat) : (1 Activator) : (0.5 Flattening Agent)**

These ratios are presented as a general reference guide only. You may want to use a 'test panel' first and let dry 24 hours to assess final sheen results. You will have complete flexibility to achieve the sheen you desire. For mixing small amounts, measurement accuracy is critical. A small digital scale with accurate measurements (in tenths of an ounce) is recommended.

### **Common mistakes:**

1. Not allowing first coat to properly flash (30 min) before applying second coat.
2. Spraying back-to-back wet coats.
3. Seeing "snowflakes" means there is too much air pressure.
4. Rough finish after 24 hours means low air pressure and poor atomization.
5. Seeing 'nibs' means mix is not properly filtered, dirty gun or dusty spray environment.