The following articles appeared in the
Volume 10 #2 issue of RodMaker Magazine.

The Tiger and Holographic Wraps and Wrapping Techniques
were first unveiled to the rod building craft and
the rod building public in these 2 articles.

Within, you will find the original and most comprehensive
coverage of these techniques available.

Pay attention to the “Tips & Tricks” that will unlock the
secrets of these wraps and help you over any trouble spots.

They are provided to you by funding from
RodMaker Magazine.

Special thanks to Scott Throop and Bill Colby.


The Magazine Of Custom Fishing Rods
RodMaker
Volume 10 • Issue 2 • $7 US
Thread Techniques
Scott Throop's
3D Tiger Wrap
Bill Colby's
Variegated Holo Wrap
2007 ICRBE Report • Early Days of Graphite • Cigar Grip Template

Scott Throop's
3-D Tiger Wrap

Discussed, attempted and argued over; the secret to one builder's signature wrap is finally unveiled by the originator himself.

by Scott Throop

The Tiger Wrap is a unique thread layering technique that can be strikingly bold or elegantly subtle. Mild or wild, this unusual decorative wrap is really an eye catcher! The name originated from my customers' comparison to the effect produced by a tiger eye gemstone, or "that wrap you do with the moving tiger stripes." The Tiger Wrap has been my signature wrap and a prominent identifiable feature on my custom rods for many years. The technique was also incorporated into a line of limited production rods manufactured by my former company. Although the color shifting movement of stripes, waves, swirls and spots exudes a look of complexity, part of its beauty is its simplicity.

A Bit Of History

Over the last 15 years or so of using this technique, there are several thousand rods out there that I have built, or had a hand in building with the Tiger Wrap, and the procedure has remained a closely guarded secret all of this time. The only people who know the specifics of how it is done are a select few employees and a trusted friend, Doc Ski, who, to his credit, figured it out himself with some careful examination with his magnification headgear and his keen eye. But it really hadn't been noticed by the rod building community until somewhat recently. A few years ago, when I got my first digital camera and learned how to post pictures of my rods on the web and in rod and tackle forums, the Tiger Wrap began generating some interest among some builders. I would attribute part of the sudden interest to the unusual look of the wrap, but possibly even more so from the mild controversy and varying opinions of what it really was and how it was actually executed. I was a bit surprised at how much e-mail I started to receive from other builders complimenting the technique and asking how it's done. Even more interesting was how many inquisitive builders cut and pasted pictures of the wrap into posts on different Internet message boards seeking information from other builders all over the net. Common replies to these posts were; "It's finish marbleizing" or "It's a trick with color preserver" or " It's done with magic markers" and my favorite: "Oh, that's The Amazing Clemens Wrap from the Custom Rod Building book." Unfortunately, two-dimensional pictures simply don't show the depth and three-dimensional properties of the wrap, and doesn't do it the same justice as seeing the optical effect in person.

I originally came up with the earliest versions of the Tiger Wrap back in the early 90's when I was running the Abel fly rod facility. When Abel began experimenting with the multi colored pattern in the anodized finish on the fly reels, I started experimenting with different threads and patterns to come up with something to match the reels, but to no avail. Too bad I didn't know about marbleizing at the time, that would have been the ticket! The Tiger Wrap never made its way onto an Abel production fly rod, but was an immediate hit among the customers of my then part time rod building side business catering to the big game saltwater crowd.

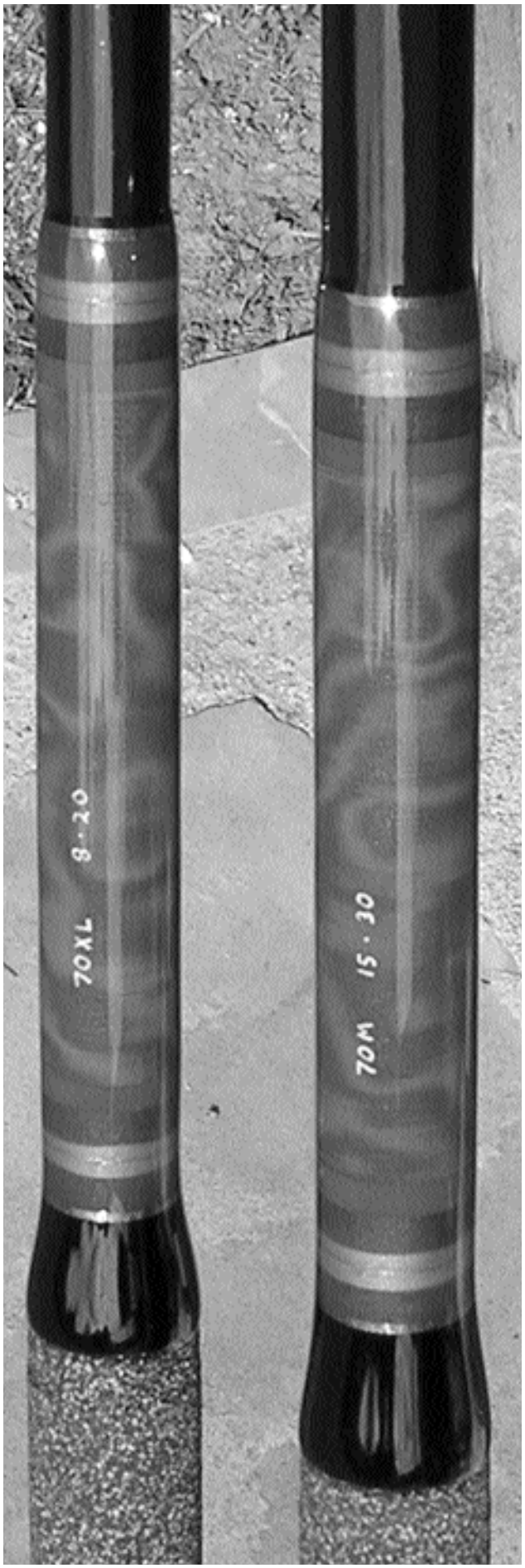
How It Works

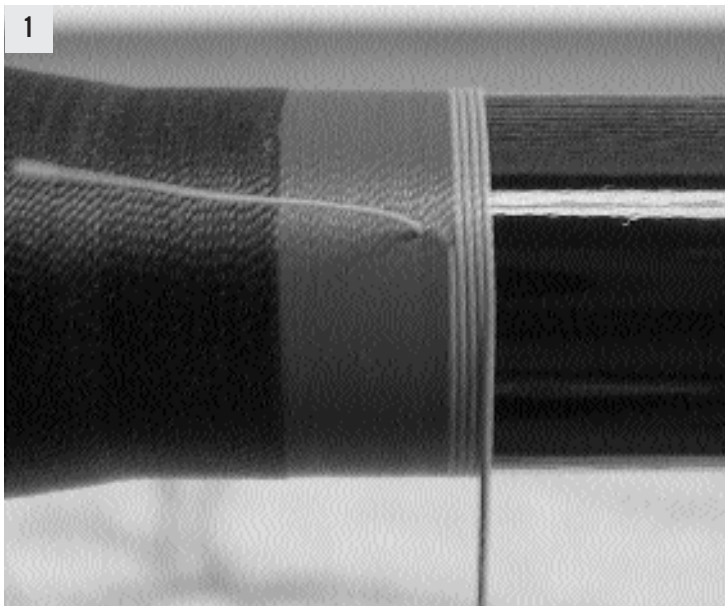
One day, someone handed me a business card that sparked an idea. This unusual business card had one of those novelty shifting images on it, the kind that when you tilt the card slightly the image will change. I studied the card closely, and paid close attention to the thick, clear plastic laminate on the front. The laminate had tiny grooves in it. I dissected the card by soaking it in warm water until I could peel a piece of the paper backing containing the printed image from the grooved plastic laminate. By studying the printed image I learned how two separate images printed in alternating lines placed behind equally placed "prisms," the grooves in the clear laminate, can project different images by refraction and the angle that it's viewed. My first attempts to replicate this on a rod were based on this light refractive principal.

Early attempts were two colors of thread laid down side by side and a similar diameter of clear monofilament laid over the top, wound in the same direction. The effect worked. Viewed from one angle I would see one color of thread, another angle the thread color would change. But then I tried wrapping the mono in the opposite direction. This produced a spiraled, repetitive stripe effect with both colors visible.

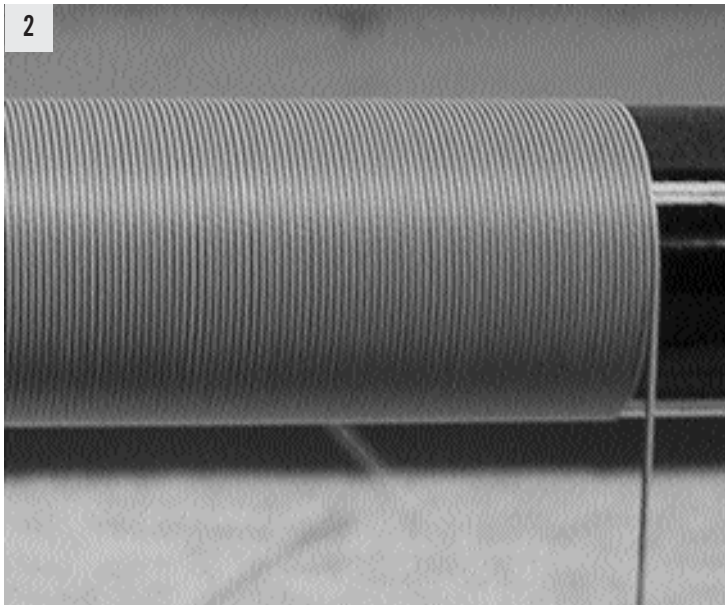
This looked like it could be going somewhere, but had one major flaw. Once a coat of finish was applied, the grooves from the mono disappeared into the finish and the light refraction property was lost. All that was visible was the two original parallel threads.

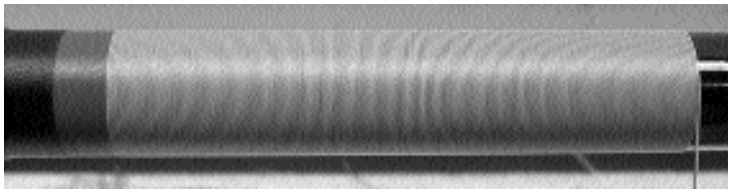
After some thought and plenty of trial and error I figured out the final solution by adding a third color, and in effect, added a third dimension. By simultaneously laying down two parallel threads for the base, and a single thread over the top, in the opposite direction with a precise, continuous gap, I achieved the basis of the final effect. The final outcome as it turns out, isn't produced by true light refraction at all. It is depth perception and viewing angle that produces the optical illusion of moving, color shifting patterns. To simply illustrate how it works, try placing your hand with your fingers together, pointing upward about a foot from your face. Your fingers will represent the two alternating thread colors in the base layer of the wrap. With your other hand place a single finger pointing up, between your face and hand. This will represent the single gapped outer layer of





of thread. Keeping your hands still, move your head back and forth and notice how alternating fingers (colors) on your hand are covered and exposed by the single finger on the other hand as you move. Now do the same thing again, but put a lot more distance between your hand and finger. The same head movement will produce significantly more movement between your hand and finger. The gap between your hand and finger represents a layer of clear finish between the base layer of the wrap and the outer layer. The thickness of this layer of finish (distance between layers) is directly proportionate to the intensity of the final 3-D effect. Over the years I've developed different variations, and refinements using burnishing techniques to produce bulls eyes and spots as well as stripes and waves in the patterns, and the finish layering to enhance the depth and the 3-D effect.





The Procedure - Thread selection

The Tiger Wrap is done with four different colored threads in two layers, the base thread, the base inlay thread, the outer wrap, and the pullout thread. Only three colors will be visible in the wrap, the fourth being a pullout, or sacrificial thread that will be removed. In order to generate a random fluid pattern, it is important that all four threads be the same size. Size A thread in nylon, NCP or metallic, one or a combination of the three will produce the best results. Gudebrod size C NCP and size D nylon are similar in size as well, and will produce the same random effect, although not as clean and vivid as the smaller size A thread. Dissimilar sizes like Gudebrod size D NCP and D nylon, or size C and A will produce a repetitive structured spiral pattern throughout the wrap, looking more like a machine woven textile pattern without the random waves, stripes or spots. Similar colors produce a subtle effect and contrasting colors will produce vivid patterns.

Step 1: The Base Wrap

With the spool running through the thread tensioner under light tension, start the wrap with the chosen color for the base and wrap to about an 1/8", with the wrap direction going to the right. Tuck the chosen base inlay thread direct from its spool into the last turn of thread on the base wrap and do three or four more turns on the base wrap to secure it in place (1). Reverse the inlay thread spool back around the rod the same amount of turns until it is back to its starting point. Holding the base thread and the inlay thread side by side, with the inlay thread on the right side, begin to wrap both threads simultaneously, being careful not to allow the threads to cross each-other and back-wind over themselves (2).

Once the desired length is reached, back-wind the inlay thread spool around the rod one turn and pass it under the tensioned base wrap thread so it tucks securely under the last base wrap turn. Trim the inlay thread close and wrap the base thread until it mirrors the other end of the wrap. Tie off and trim as usual.

Step 2: The Intensity Factor

With your burnishing tool, firmly burnish the thread back and forth along the length of the wrap to close any gaps in the thread (3).

This is where the thread can be manipulated to produce more erratic stripes, spots and even bulls' eyes. You can use the burnishing tool to "disrupt" the uniform parallel wraps by burnishing in short strokes in different directions and angles. It is difficult to predict what the final outcome will be, as it will be completely random. Even if you don't burnish the thread the patterns will be random, but the multi-directional burnishing will make the final patterns appear more intense and chaotic. The multi-directional burnishing should give the parallel thread wraps an elongated "S" appearance in some areas, and straight in some areas.

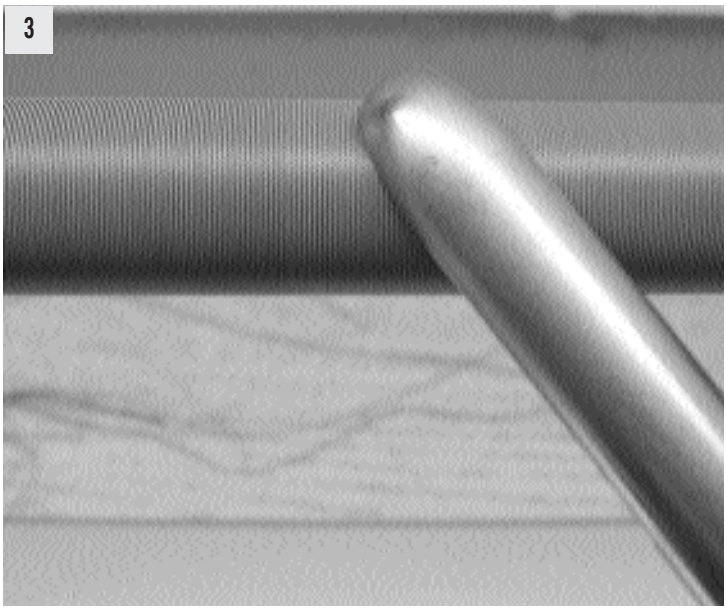
Step 3: The 3-D Factor (optional, but highly recommended!)

Apply a thick coat or two of clear rod finish to the base wrap. This is what will put distance between the base wrap and the outer wrap, producing the 3-D effect, and will cause the patterns to appear to move and shift as the rod is moved and viewed from different angles. The thicker the finish coat, the more movement the patterns will have. For best results, allow the finish to fully cure for a day or two before proceeding to step 4. If you choose to skip the finish layer and wrap the outer wrap directly over the base wrap without a coat of finish, the patterns will still appear and will look good, but the depth will be missing, and the 3-D effect will be minimal to none.

Step 4: The Outer Wrap

With your chosen color for the outer wrap, run the spool through the thread tensioner under light tension and start the wrap on the right side of the base wrap and prepare to wrap toward the left, the opposite direction that the base was wrapped. Start the wrap about 1/8 inch in from the edge to leave a band of the base colored thread as trim. As described in Step 1, start off about 1/8 inch and insert the pullout thread, secure, and begin to wrap the threads side by side with the pull-out thread on the left side (4).

The color of the pullout thread isn't important as long as it is the same size as all of the other thread used.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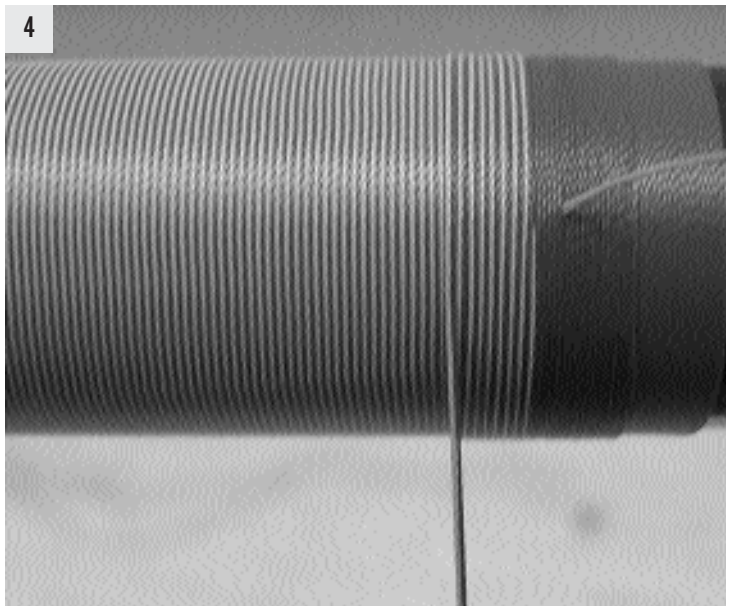
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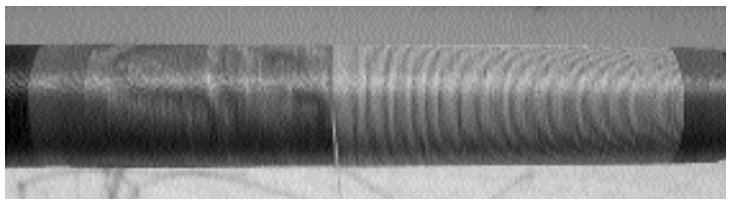
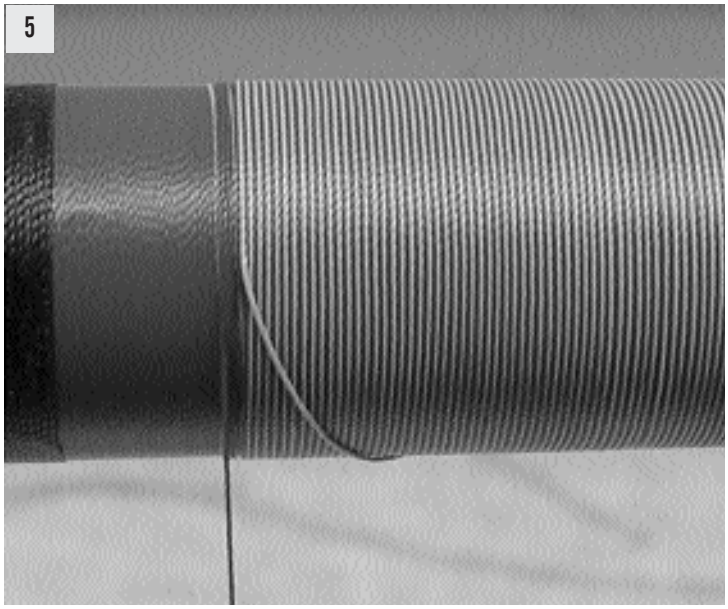
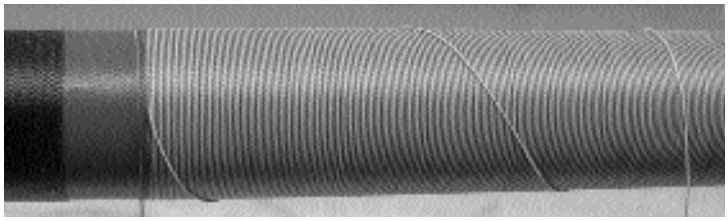






A contrasting color is easier to see. Continue to wrap the two threads over the base wrap, stopping about _" from the edge. Pass the pullout thread spool under the standing tensioned thread, as not to wrap over it to secure it. Trim the pullout thread from the spool, leaving about 6 inches to drape back over and around the wrap and out of the way. (5) Continue to wrap the outer wrap to mirror the other end, being careful not to wrap and secure the pullout thread. Tie off and trim as usual.

Step 5: The Pullout

The pullout thread is the placeholder that creates the precise, continuous, open gap in the outer wrap that allows the two alternating colors to show through. Take the end of the pull-out thread and drape it around the rod to the left side, out of the way of the wrap, taking care not to uncoil it from the wrap, and secure it to the rod with a piece of tape. Carefully burnish the outer wrap and pull-out thread to blend and even out any gaps or inconsistencies. Next, warm the wrap with a hair dryer or a heat gun on a low setting, Don't over-heat, it only needs to be warm to the touch. Allow the rod to rest for around 45 min. to an hour. This allows the outer wrap thread to stabilize and take a set, forming an impression into the finish layer underneath. This will prevent the outer wrap thread from drifting out of place when the pullout thread is removed. This is critical to the overall look and quality of the wrap and the pattern effect. If the open gap isn't consistent and gets distorted, it will just look like an unsightly wrap with random gaps in the thread. Done correctly, with size A thread it is difficult to even see the outer wrap without magnification it will simply disappear into the pattern.

Once the thread has taken a set, its time to see the final result! Carefully begin removing the pullout thread by rotating the rod as you pull the thread straight off, being careful not to pull off at an angle and disturb the outer wrap coils (5).

When you come to the end of the pullout thread, carefully pull it loose from the security wraps. When applying the first finish coat over the outer wrap, a bit more attention to small finish bubbles may be needed. Small air bubbles that are released from the thread tend to stay lodged in the small gaps in the outer wrap, but it's nothing that a bit more vigilance than usual and a quick flame won't fix.

The Tiger wrap also looks great when used for guide under-wraps as well as for decorative butt-wraps, an interesting background behind open diamond wraps, even in conjunction with marbleizing. Have fun, and don't forget to post pictures of some new creations on rodbuilding.org! ✍

Tips & Tricks

• The intensity of the overall pattern is determined by how "disturbed" the two threads that make up the underwrap are. After making the underwrap, use a burnishing tool to disturb the normal parallel threads on the underwrap. The multi-directional burnishing should give the parallel thread wraps an elongated "S" appearance in some areas, and straight in some areas.

• The degree of 3D effect is governed by the amount of space between the under and overwraps. So, the thicker the finish layer between the two the greater the 3D effect will be.

• If the open gap between the threads on the overwrap isn't consistent, the wrap will look like any other unsightly wrap with random gaps in the thread. Carefully burnish the outer wrap and pullout thread to blend and even out any gaps or inconsistencies. Next, warm the wrap with a hair dryer or a heat gun on a low setting, Don't overheat, it only needs to be warm to the touch. Allow the rod to rest for around 45 minutes to an hour. This allows the outer wrap thread to stabilize and take a set, forming an impression into the finish layer underneath. This will prevent the outer wrap thread from drifting out of place when the pullout thread is removed. This is critical to the overall look and quality of the wrap and the pattern effect.

• When making the underwrap, remember that similar colors produce a more subtle effect while contrasting colors will produce much more vivid patterns.

• When selecting sizes for the underwrap, choose threads of the same diameter. Also remember that while you can achieve the same effect when using larger threads such as size D, those made with smaller diameter threads such as A will tend to fool the human eye into seeing a much more striking effect.

3D Tiger Wraps

Signature Wrap of Scott Throop

HOLOGRAPHIC Guide Wraps

by Bill Colby

I've always liked the look of the old Gudebrod variegated thread. But in more recent years it hasn't been available, which means I've had to rely on figuring out ways to change or tint the color of my large stock of older gold/black variegated stuff. Fortunately it's not hard to do. You simply wrap another color, the color you wish to predominate on the rod, side by side with the variegated stuff. For instance, wrapping a blue thread next to each strand of the gold/black variegated thread results in what appears to be shaded blue/black variegated thread. Making the same wrap, but this time with red thread next to the gold/black variegated stuff, will result in a wrap that appears to be shaded red/black variegated thread. Suffice to say that I did a lot of wrapping with two threads at a time to get the color I wanted on any individual rod.

Later, purely by accident, this double thread wrapping led to a discovery that has intrigued and fascinated me ever since. Even now I've not come to the end of the road where variations and alterations have ceased. Let me tell you about it.

A Happy Accident

Normally I'd use these tinted or shaded type wraps as underwraps on my heavier saltwater rods. I'd put down the underwrap, consisting of a solid color wrapped alongside the variegated stuff, and then apply a coat of color preserver and then finish, before making the top or overwrap. If you've ever applied finish to an underwrap and then made your overwrap, and for whatever reason had to go back and remove the overwrap, you'll most likely notice that the finish underneath will have developed grooves from the overwrap. This is quite common when such overwraps are made within 24 hours of coating the underwrap with epoxy. The epoxy won't be fully hardened and the overwrap thread will tend to cut into it, effectively grooving it.

I bring this up only because it resulted in a happy accident of sorts some years ago. I had put down one of my color shaded variegated underwraps, only to do a pretty shoddy job with one of the overwraps. The guides I was wrapping were large and heavy with thick feet and I couldn't get the darn overwrap thread to pack nicely. As a result, spaces and gaps appeared all along the overwrap of one of the guides. I couldn't stand it and decided to remove it. When I did, I was confronted with an underwrap that now appeared extremely wavy and motion like.

At first I couldn't figure out what had happened. Then it dawned on me that the grooves that were left from the removed overwrap were tricking my eye into seeing only one of the underlying two threads at any one time. As I moved the rod to different angles, the waves and swirls took on a holographic type effect. At least that's how it appeared. Now if I could just duplicate this on an actual wrap I figured I'd really have something.

But I couldn't get it to work when I purposely tried to duplicate this effect. Then a light came on - my underwrap was made by wrapping in one direction and the overwrap I had removed was the one where due to always wrapping towards the guide foot, was wrapped in the opposite direction of the underwrap. Duh! Wrapping the top thread in the opposite direction of the underwrap was the key. The grooves had to be cut in the opposite direction for the effect to appear.

Problems

I reasoned that if I simply followed this procedure, using an overwrap thread to cut grooves into the finish over the underwrap, the effect would be fine but the wrap would lack the smooth, glassy surface that most fishermen expect. Plus it would likely be easily damaged. So I considered adding an additional coat of epoxy over the grooved coat. But that didn't work - the fresh epoxy simply filled in the grooves and the effect was lost. Oh well. Back to the drawing board.

A Different Approach

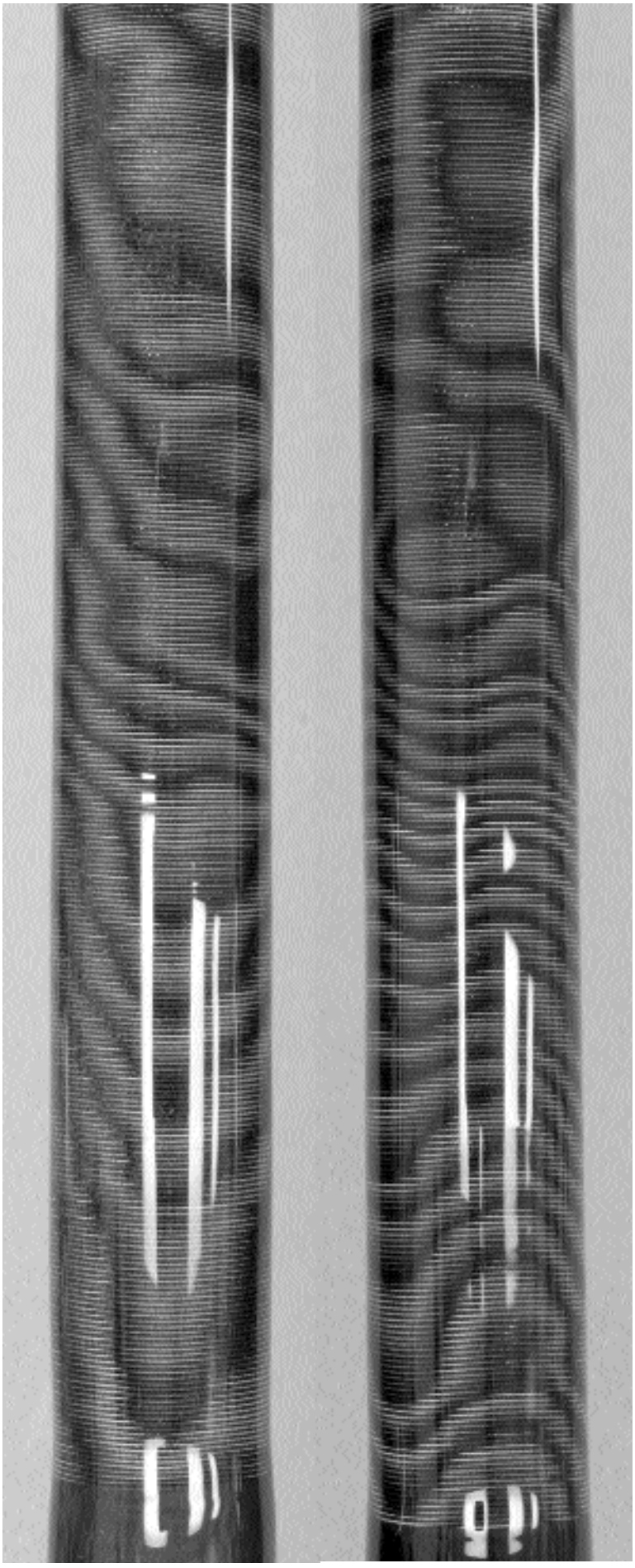
I decided that I would have to create grooves or spaces on top of the underwrap epoxy coat with something that would be opaque. Thread was the obvious answer. I reasoned that it would be like looking through a set of partially opened mini-blinds, which if you've ever done you no doubt noticed that everything outside the window tends to look wavy. But another problem was encountered. Nearly every time the effect I ended up with was extremely subdued and hard to see. I then reasoned the problem was with my color selection either for the underlying threads or the top thread.

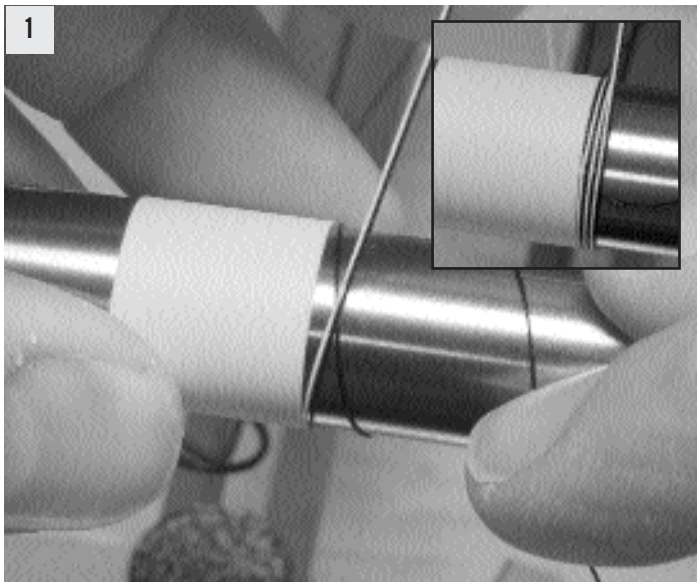
I remember talking to Tom Kirkman at an earlier rod building show about contrast in wrapping threads. He had made some sort of remark about how the railroads use black and yellow on their signs because those two colors provide the greatest amount of contrast possible. So, I gave a black and yellow underwrap a try.

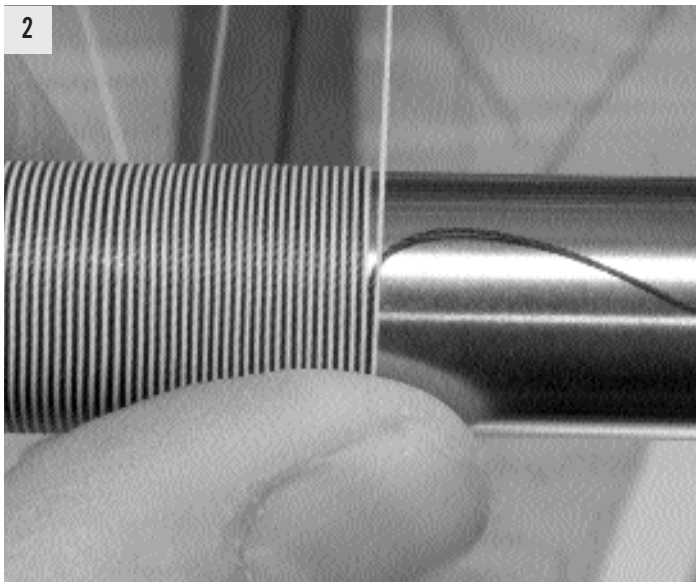
I figured that dark blue would go well with the yellow so after putting down the black and yellow underwrap, I applied CP and a thick coat of LS Supreme epoxy finish. Then I added the dark blue overwrap on top, wrapping in the opposite direction from which I had made the underwrap, and carefully spiraling the thread so that small openings or gaps were left between each strand of dark blue. The effect because apparent immediately! And, it did not show as black and yellow, but rather as a wavy, swirly blue! So, the high contrast underneath was what created the effect, with the color of the overwrapped thread determining the actual color of the overall wrap.

My Way

I knew that as I was preparing this article that Tom was working with another author on a similar technique. I was told that our methods overlapped quite a bit but differed in our selection of thread colors and reasons. So, what I'm about to detail for you is in no way meant to be the last word on such a wrapping method. It's simply the method that has given me the







most vibrant and vivid effect in terms of waves and spirals. Here we go.

Make your underwrap with two colors of size A thread. I recommend that you use either black and yellow or black and white. In either case, use NCP thread for the yellow or white. The black can be regular nylon. Start with the color thread (yellow or white) and then insert the contrast thread (black) by wrapping it into the wrap much as you would if you were going to do a thread inlay (1).

Now wrap both colors side by side for the distance over which you want the effect to take place. Cut the contrast thread and unwind it one revolution and bring it out and under the main thread (2). Wrap the main thread a bit further and tie off.

At this point, you'll apply color preserver to the threads even though you're working with NCP for the color thread and regular nylon black for the contrast thread. Let dry and then apply a coat of regular epoxy finish. I like LS Supreme High Build as the thicker coat seems to enhance the final effect. Do try to get a nice and level finish so as to make the next step easier.

Once the epoxy on the underwap has cured to the point that it is no longer tacky and will allow you to handle and work thread on top of it, begin wrapping another size A thread, of the color that you wish to predominate on the rod, directly on top of the underwrap. Wrap it in the *opposite* direction that you wrapped the underlying threads in the underwrap.

Once you get the thread started, wrap it to the point where you wish the wave and spirals to start. At that point, begin leaving small but very even spaces between each turn of the thread as you wrap. I achieve narrow and even spaces by setting my thumbnail against the standing wrap and allowing each successive turn of the oncoming thread to pack tightly against my thumbnail. The width of your thumbnail will be the width of the spaces you attain between each thread. **See editor's note at end of article.*

Be patient and work slowly. Although this can take a while, it's important that the spaces between each wrap don't get too wide or the effect will be lost. If you find that your thumbnail is too wide for the look that you want, substitute the blade of a plastic butter knife or anything else that will give you very narrow and very consistent spaces between the thread wraps. Although this can take some time, it's not hard to do provided you keep the thread angled back towards your thumbnail or butter knife or what have you. Just let your thumbnail ride slightly against the previous thread and the oncoming thread press against your nail and all will be well.

The underwrap should be smooth and level. If it's not and you're having trouble making the overwrap, you may need to block sand it smooth, working through sandpaper grits of 150, 220, 320 and then 400. The final overcoat of finish will restore the shine

Tips

When making the underwrap with the black and yellow or black and white threads, make sure the threads are nicely and snugly packed together, but wrap under very little tension. You want to be able to go back and burnish the threads or even push them with a finger or thumb to create an initial wavy look. Burnish one way and then rotate the rod and burnish the other way. Take your thumb and push an area in one direction and then do the same on other axis and in opposite directions. If you've gone very easy on thread tension, you'll find that you can shift an entire area with this thumb pushing trick.

Variations

Earlier I mentioned that I like the old variegated style thread. Well, it's back. Rice and Madeira both offer it in small diameters sizes equivalent to Gudebrod size A. Stock up, because you're going to like the added effect it gives. Using the variegated type thread in the color of your choice for the overwrap thread and you'll pick up an additional effect due to the small black specks in the thread. And due to the slight gaps or spaces you're leaving in between each turn of the thread, the effect will be even greater. Coupled with the holographic type effect of the underwrap below, the resulting look is one of the more radical things I've seen on any fishing rod in many years. It's pretty much how I make all my holographic wraps these days.

Due to my discovery that another builder had been making similar type wraps that predated my own I want to state that I am not claiming any sort of singular discovery or invention in the area of the type technique of wrap I have described for you here. I did come up with this on my own and without prior knowledge of another builder doing anything similar. But it is not my intent to refute anyone else's claims of discovery or invention nor to claim this technique for myself. I share it here in the hopes that all who read it will go out and make further innovations to this technique. Good luck! ✍

(Editor's Note: After Bill sent me this article, Scott Throop sent his article on his signature 3D Tiger Wrap. Scott obtains the spaces between his overwrapping or top thread by wrapping two threads together and then going back and removing one. Scott's method ensures that the spaces between each turn of the top thread will be extremely uniform, which allows for a much neater overall final appearance. Bill has since informed me that he has adopted Scott's method for wrapping the top thread and feels it is "far superior and quicker" than his own method of simply trying to carefully spiral the top thread by manually maintaining a uniform distance between wraps.)

Notes on Thread and Contrast...

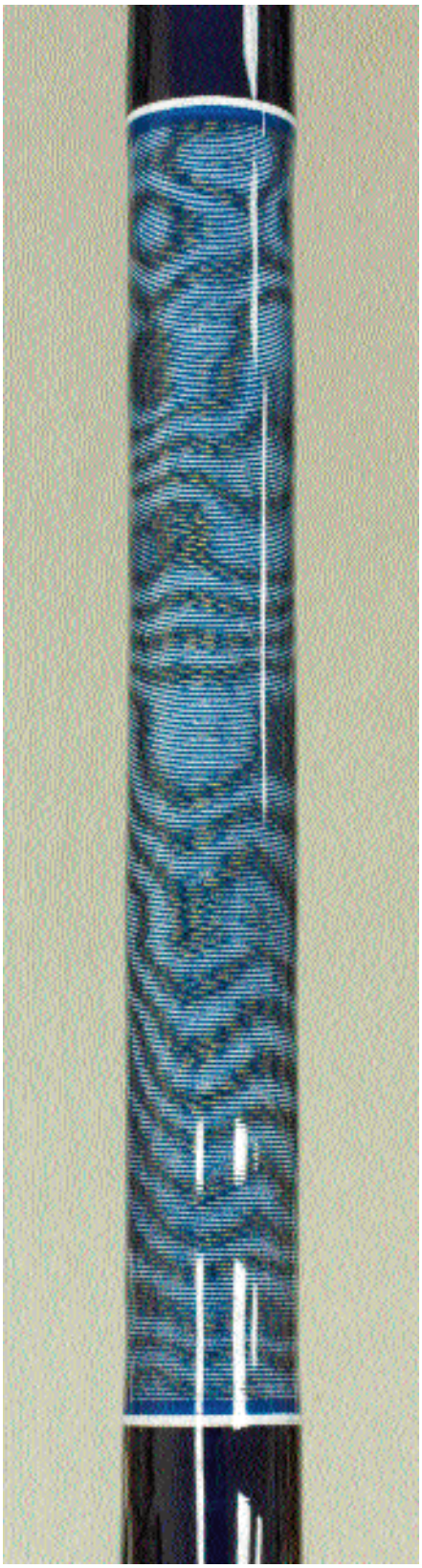
To get the most out of this technique, it's necessary to break down the various component parts and understand what each thread is responsible for. In the underwrap, the lighter of the two colored threads serves two purposes - to tint the overall wrap and to allow the natural color of the single overwrapped thread to display itself. The darker of the underwrap threads, however, does little to tint the overall wrap color but has everything to do with darkening areas of the overwrap thread. For the most powerful effect, I highly recommend making the underwrap with two contrasting threads. My personal favorites are black and white, and black and yellow. For the white or the yellow, I recommend that you always use the NCP thread type. This opaque thread will create a bolder and more striking effect than the use of regular nylon in the underwrap. The black, however, should be regular nylon as it is darker than the NCP variety.

The use of variegated thread for the overwrap greatly enhances the overall effect of this wrapping technique. When used on the underwrap, I recommend keeping the contrast high. So, if you use a dark variegated thread, combine it with white or yellow NCP. If using a lighter colored variegated thread, combine it with black in regular nylon. This serves to maintain a high degree of contrast on the underwrap which in turn creates a more striking effect when the wrap is completed.

Variegated thread also works well when used for the overwrap, but only when the darker shades are used. In general, I find that the overwrap thread is best kept to the darker colors, whether you use standard color or a variegated color.

Unfortunately, Gudebrod no longer offers variegated style thread in non-metallic colors. But Rice still has some listed and Maderia offers a great many variegated thread colors. My only caution would be to try and maintain similar thread diameters. When working with threads made by two different companies, strive to match the diameters as closely as possible.
Bill Colby

Feather Inlays *Terry Henson, Laverne, CA*



Variegated Holographic Wrap

Bill Colby
Chester, SC

Signature 3D Tiger Wraps

Scott Throop, Camarillo, CA