



## INSTRUCTIONS FOR USING SOFT VI ALPHA TAGS

Thank you for choosing visible implant (VI Alpha) tags! Our mission here at NMT is to provide the best tools to help you get results from your research. We are committed to support you in your scientific research, and to that end we offer free Technical Support for our products. For Technical Support regarding VI Alpha tags please call Biological Services (360) 596-9400 or [biology@nmt.us](mailto:biology@nmt.us) (email). For equipment questions and to order more supplies, please call Customer Service (360) 468-3375 or [office@nmt.us](mailto:office@nmt.us) (email). Customer Service personnel are available 8am-5pm (Pacific Time) to help you.

Before tagging please consider the following:

- Prior to using the VI Alpha system, available reference material relating to its use on fish or other aquatic animals should be reviewed. The biological staff of NMT is available to advise users in this regard and to refer them to others conducting similar research.
- If references are lacking, experimentation to determine suitable tag locations, retention rates, and visibility should precede applied use.
- Injectors should be sharp and free of contaminants. A fine stone is included with the injector and; should be used to keep tagging needles sharp. Injectors should be cleaned at least daily. We recommend a warm detergent bath, followed by thorough rinsing in freshwater and then alcohol.
- The wearing of an optical magnifying visor may be very useful while loading tags into injectors, especially for standard size.
- Loading and injecting tags should be practiced until proficient prior to conducting experiments.

Soft VI Alpha tags are organized in rows on transparent sheets with the tag codes printed beside them. The tags are lightly adhered to the clear sheet by biocompatible gel. A sheet of white plastic covers the tags for protection until ready for use. Rows of tags have perforated dividing lines so one or more strips can be torn apart for use.

### LOADING THE INJECTOR

The injector needle is dipped in water or alcohol, if not already wet. The tags may be loaded into the injectors with either of two methods. For the first method, the white plastic cover is peeled back or removed and the strip of tags is held in the hand with the tag to be loaded curved over the forefinger. At this point the backside of the tag is facing up; so the code on the tag is not visible. The open side of the needle point is turned down, aligned with the long axis of the tag. Slide the needle over the tag until the tag is entirely inside the injector (see figure 1).



Figure 1



Figure 2

For the second method, hold the tags with the clear plastic side up. The code on the tag will be visible with this method. Peel back the white plastics cover just enough to expose the tag to be loaded. The open side of the needle point is turned up, aligned with the long axis of the tag. Slide the needle under the tag until the tag is entirely inside the injector (see figure 2). Rocking the injector from side to side while loading tag will assist in easier loading.

The tag is now loaded and when injected the code will be visible.

## INJECTING THE TAG INTO SPECIMEN

The tags cannot be pushed into solid tissue without the aid of the injector needle because of their soft texture. The sharp tip of the needle is used to cut a path for the tag.

The procedure is:

- 1) The needle cuts a space so the tip is slightly beyond where the far edge of the tag is desired;
- 2) The tip of the needle is slightly withdrawn;
- 3) Using the palm of the hand the push rod is slightly advanced so the tag fills the opening at the front of the needle; \*
- 4) The tag is left in place as the fingers withdraw the needle while the push rod is held stationary relative to the tissue using the palm of the hand.

\*Please note: The tag will roll up or otherwise become distorted if pushed too much.

The tag injectors supplied with the soft tags differ from those used for the original hard tags. The injectors used for soft tag are shorter in length so the push rod fits the palm of the hand; and the thumbscrew has been replaced with a setscrew.

Here are some tagging tips:

- 1) The tagging area should be well illuminated.
- 2) Tags should be stored in a cool, dry location until ready for use.
- 3) Fish to be tagged should be well anesthetized or restrained; otherwise, they are likely to move when injected causing tearing and enlarging of the tag location, which increase tag loss.
- 4) Implants should remain just below the skin. Deep tags may become obscured, and if they penetrate into the skin are likely to be lost.
- 5) If possible, a representative number of tagged specimens should be retained for evaluation of tag loss and visibility for several weeks minimum.
- 6) Care should be taken in handling the fish immediately after tagging to minimize tag loss. Avoid dropping, tossing, or exposing them to strong water currents.

## TAG RECOVERY CONSIDERATIONS

The readability of obscured VI Alpha tags can be greatly enhanced by viewing the tag under blue light while wearing amber filter glasses. All NMT supplied blue light flashlights come with blue LED (light emitting diodes). LED arrays draw less energy than halogen bulbs and will last longer on a set of batteries. Furthermore, LED lights are almost indestructible. Although LED offers the longest possible usable light, we highly recommend that you test all blue light flashlights before examining study animals for marks. We also recommend that you keep a set of spare alkaline batteries with your LED flashlight and replace the batteries after 40 hours of use.

Again, thank you for choosing our visible implant (VI Alpha) tags. Please contact our Biological Services for more assistance with this product. For references and more information about VI Alpha tags, please see our website: [www.nmt.us](http://www.nmt.us)

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