Gluing Guide

Quick Neck/Neck Tite

www.sitech.se

SI TECH®
INNOVATIVE SAFETY SOLUTIONS – MADE IN SWEDEN

General information

SI TECH has an extensive background and history in the development and design of premium drysuit components that dates back to the early 1960's. This manual is designed as a basic guide for the successful installation of our core drysuit components to a drysuit.

Our experienced staff, through a series of pictures and notes, will guide you through basic step by step installation procedures.

It is of greatest importance that you have fully understood each step in this brochure before you start modifying your drysuit as it is a life supporting part of your equipment.

Warnings and recommendations

A professional work area is necessary when making modifications and repairs to drysuits. As well, you will need access to a variety of tools and chemical agents. You must have a basic knowledge on how to use these tools and you must familiarize yourself with MSDS and TDS sheets for any chemicals, glues and compounds you are using. One should be familiar with the first aid procedures for accidental contact with any chemicals used.

The individual is responsible when making modifications or alterations to a drysuit. SI TECH AB will not take any responsibility in accidents or injuries that may occure when it comes to handling of tools and chemical agents connected to drysuit modifications.

Preparations

Proper preparations are the key for good results.

- A work area with **adequate ventilation** is priority one!
- Ensure that all necessary tools are in place.
- Be sure that you are using proper chemical agents for cleaning, preparations and the gluing process.
- Ensure that all surfaces to be treated are clean.

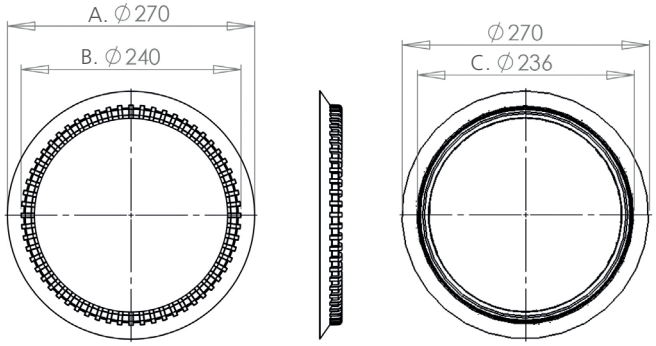
Tool List

Listed below you will find all the items needed when carrying out the operations explained in our examples.

- Emery cloth or sandpaper
- Solvent
- Glue and hardener
- Tape–measure
- A pair of scissors
- Roller
- Heat gun
- Tape

Important measures

Depending on the fabric, design and size of your drysuit, installation might differ slightly. Follow the glue manufacturers instructions and drysuit manufacturer instructions according to specifications of actual fabrics and adhesives. Read the instructions carefully and take your time when measuring and preparing the drysuit before attaching the components with adhesive. If you feel uncertain about any of this, please contact you drysuit dealer.



Similar measures for the Neck Tite system is:
A. 270 mm
B. 240 mm
C. 236 mm

Depending on the drysuit design the Quick Neck Ring can be glued to either the outside or inside of the drysuit.

However, our recommendation is that the Quick Neck Ring is attached to the exterior side of the drysuit. The surface marked yellow explains the gluing area for both ways of attachment.

Recommendations by SI TECH

This booklet is intended as a guide covering the procedures used when working with adhesives and the attachment of the Neck Ring of the Quick Neck and the Neck Tite system. The ability to make accurate measurements and markings cannot be understated. Ensure that you have all necessary tools for measuring and marking on hand. You do not want to compromise the integrity of your suit by making and fixing mistakes - "measure twice - cut once".

Clean all surfaces

Ensure all surfaces are free from adhesive residues, debris and dirt. This is paramount for the glue to do the job. No matter the adhesive, tools or technique if not cleaned properly, the job will be sub-standard. Roughen the surface with fine emery cloth or sandpaper. Inhouse we use either a table grinder or emery cloth for roughing surfaces. The Quick Neck Ring shall be cleaned and de-greased by the use of acetone for maximum grip properties.

Positioning of Neck Ring

The first thing you need to do is to remove the current seal or cuff. This procedure totally depends on the fabric and design of the suit, the type of glue used and how old the mount is. If you do not know of how to do this we strongly recommend you to contact the drysuit dealer or manufacturer. **When the seal is removed you need to clean and prepare the attachment area before next step.**

- Clean the mounting surface of debris, dirt and adhesive residues.
- Check the same area to ensure there is no tape or damage to the fabric or seams.

It is extremely important that the Quick Neck Ring is located on the correct spot. Otherwise it might cause discomfort and loss of focus during diving! The images above shows proper location providing comfort and use of normal movement pattern. After removing existing seal, don your drysuit and use a mirror to find out best position of the Quick Neck Ring. It might be necessary to cut away parts of the drysuit to fit the Quick Neck Ring properly. When you have measured where to install the Quick Neck Ring you need to make a "dry installation" of the Quick Neck Ring in order to find the perfect spot for optimal mount and best effect for the adhesive. All drysuits are different in designs, use your judgement or contact the drysuit manufacturer if you need to make changes in the design to fit the Quick Neck and the Neck Tite system.

General gluing instructions

The following instructions are based on use of a heat activated PU-glue that will help you to avoid mismatches as you can match the two surfaces when dry. We do however recommend you to talk to your drysuit dealer and/or the drysuit manufacturer in terms of what glue they recommend for the job.

Polyurethane (PU) based glue is recommended for the attachment of PU-Rings to the suit. Glue mixed with hardener has a limited pot life. Do not mix too much each time.

Wash all surfaces to be glued (with acetone or toluene unless otherwise is stated by the glue manufacturer), prior to applying the first coat of glue. The PU-material in the Quick Neck Ring will be more receptive to the glue if swollen with solvent or pre-heated with a hot airgun (60-80 degrees C/140-180 F).

Important information about glue and gluing

To achieve the best bonding and saturation of all materials, including natural rubber, the first (and possibly second) coat of PU-glue must be thinned. PU-glue can normally be thinned with acetone or toluene (follow the glue manufacturers recommendations). If the adhesive feels too thick and does not flow out properly, we recommend diluting the glue with a little bit of acetone or other diluent recommended by the manufacturer. Diluting the glue will ensure saturation into the material or fabric to be glued. Apply 2-3 thin coats of glue and let dry in between each layer (mixed with hardener if recommended by the glue manufacturer) on all surfaces, make sure that all seams are well covered. When applying adhesive to the rings, ensure that the adhesive flows out properly covering the full surface.

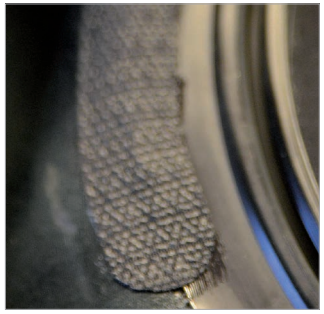
When the last coat of adhesive has dried, it is time to apply the Quick Neck Ring to the drysuit. It is wise to adhere the Quick Neck Ring in the front and back end according to the markings and knobs. When you have fitted the Quick Neck Ring to its actual position you will need to melt the glue by using the heat gun. You must be very careful when using the heat gun. If the fabric of the suit and/or component gets overheated you might damage it.

Heat both the Quick Neck Ring and the suit. Move the nozzle of the heat gun constantly to prevent the ring and suit from overheating. Work in areas of 5-10 cm at a time to keep the temperature of the glue at a smooth and constant melting point.

When the adhesive has melted and the ring is in place you need to squeeze away all air-pockets in order to get maximum grip between the components. Use a roller or similar tool to put equal force over the actual surface. Roll back and forth until you have covered the complete surface 360°. When this is done we recommend you to wait about 10 minutes before starting the next step.

Attaching tape

The last step of this project is to reinforce the attachment with tape to seal the edge. We recommend a heat activated PU-tape. The tape will strenghten the bonded joint and give the attachment a nice visual appearance. It is of our recommendation that a pre-glued tape is used for best result.


Pre-cut the tape for a rounded edge. Apply two layers of glue on the surface of the ring and the suit (let dry thoroughly in between). To activate; heat the tape and glue on sleeve and ring, 5 cm (2”) at a time and stretch the tape gently when applying. When the tape is finally attached you will need to end the attachment with an overlap of approximately 1-2 cm (rounded edges). Use a roller to squeeze out all air bubbles.

Summary

- Before taking any action with a suit, you must ensure that you have made proper measures and markings in regards to the positioning each component to be attached.
- Ensure that you have clean surfaces.
- Make sure you are using the recommended adhesive for the actual fabric about to be coated.
- Be careful when using the heat gun. It is very easy to damage fabrics and components by overheating them with the heat gun.
- Remove all air pockets by using a roller.

These are recommendations only

Gluing instructions in this booklet are recommendations only. Follow the glue manufacturers instructions and drysuit manufacturer instructions according to specifications of actual fabrics and adhesives. Always make a leakage test before diving.

Important information

Always test the strength of the attachment and the seal integrity before diving.

NOTES

SI TECH is a Swedish company focusing on manufacturing and marketing of components for protective suits such as; drysuits, rescue suits and garments designed for diverse hostile environments. SI TECH is rooted in the diving industry which is still the company's core market. The company was founded in 1971 by the diving pioneer Stig Insulán.

Core products
Modular Quick Change Solutions, Drysuit Valves, Drysuit seals, Dry Glove Systems, Gas Inflation Systems and special compoents for military purposes

Inhouse capabilities
Development and production is made in-house at our facilities in Brastad, Sweden. Inhouse competencies include: CAD construction, Injection Molding, CNC Machining, EMD Machining, Assembly, Sales and Marketing, Logistics and Administration. Our team of engineers, sales and marketing personell have close co-operation with the distributors and end-users of our products.

Core Market Areas

SI TECH – INNOVATIVE SAFETY SOLUTIONS – MADE IN SWEDEN – MARINE COMPONENTS

SI TECH – INNOVATIVE SAFETY SOLUTIONS – MADE IN SWEDEN – MILITARY COMPONENTS

SI TECH – INNOVATIVE SAFETY SOLUTIONS – MADE IN SWEDEN – RESCUE COMPONENTS

SI TECH®

INNOVATIVE SAFETY SOLUTIONS – MADE IN SWEDEN

www.sitech.se