

Click Medical Material Data Sheet (MDS)

Table of Contents

- Kit Tech Specs
- Socket Insert Material Options (foam, plastic, silicone, etc.)
- Lamination Layup Options (single & double)
- Pad Material Options (panels)
- Cutting & Finishing Tools
- Suspension Options (locks, lanyards, knee-sleeve, suction, vacuum)

Kit Tech Specs

Click Medical products are patent protected.

For full list see www.clickmedical.co/patents

RevoFit® Lamination Kit

(SKU# RF-200-07-01)

- Build Height of Click® Reel: 14mm visible profile, 24mm total
- Reel Diameter: 42mm
- Reel Weight: 71g
- Collar Diameter: 42mm
- Tube/Sheath Length: 1.8m
- Tube Outer Diameter: 3.2mm
- Lace: 2m HD (High Durability) Lace
- Code: L5999
- User Weight Limit: 300 lbs/135kg



RevoSurface® Tool Kit

(SKU# RS-100-07-01)

- Build Height of Click® Reel: 14mm visible profile, 24mm total
- Reel Diameter: 42mm
- Reel Weight: 71g
- Collar Diameter: 42mm
- Surface Guide Height: 5.5 - 6.5mm
- Surface Guide Weight: 1g
- Release Handle Weight: 1g
- Tube/Sheath Length: 1.8m
- Tube Outer Diameter: 3.2mm
- Lace: 2m HC (High Capacity) Lace
- Code: See underlined options below
- User Weight Limit: 300 lb/135kg



RevoLock® Align Kit (SKU# RL-301-07-01)

Build Height of Click® Reel:
14mm visible profile, 24mm total
Reel Diameter: 42mm
Reel Weight: 71g
Distal Housing Diameter: 45mm
Distal Housing Height: 35mm
Distal Housing Weight: 28g
Snap/Threaded Insert Weight: 33g
Tube/Sheath Length: 0.5m
Lace: 2m HC (High Capacity) Lace
Code: L5671 LE or L6698 UE
User Weight Limit: 300 lb/135kg



RevoLock® 4-Hole Kit (SKU# RL-300-07-01)

Build Height of Click® Reel:
14mm visible profile, 24mm total
Reel Diameter: 42mm
Reel Weight: 71g
4-Hole Housing Diameter: 64mm
4-Hole Housing Height: 24.5mm
4-Hole Housing Weight: 116g
Snap/Threaded Insert Weight: 33g
Tube/Sheath Length: 0.5m
Lace: 2m HC (High Capacity) Lace
Code: L5671 LE or L6698 UE
User Weight Limit: 300 lb/135kg



RevoLock® Tool Form (SKU# RL-310-00-01)

65mm x 25mm Fabrication Tool Form
Required for fabrication of RevoLock 4-Hole kit
Polished stainless steel material - reusable for many fabrications
Replacement parts available



RevoLock® Lanyard V2 Kit with BOA® Dial

(SKU# RL3000-220)

Build Height of BOA® Lanyard V2 Dial: 19 mm

Dial Diameter: 36 mm

Dial Weight: 14g

Distal Housing Diameter: 30mm

Distal Housing Height: 25 mm

Distal Housing Weight: 21.8g

Snap/Threaded Insert Weight: 5.9 g

Tube/Sheath Length: 0.5 m

Lace: 2m HC (High Capacity) Lace

User Weight Limit: 220 lb/100kg



Insert Material Options:

- The insert is used to: contain tissue, reduce window edema, reduce pinching and manage the interface of the adjustable device components.
- Plastic materials should have a finished thickness of approximately 3mm in order to allow for movement to occur.

If insert is:

< 3mm = too thin and will deform over time

> 3mm = too thick/rigid to effectively move

Flexible Plastic (EVA):

Blister or Drape Form - Finished plastic thickness = 3mm

- Blister Form plastic thickness = 8mm (TT small), 10mm (TT med), 12mm (TT lg)
- Drape Form plastic thickness = 4mm (TF small), 6mm (TF med), 8mm (TF lg)

Manufacturers:

- [Curbell OP-TEK® Flex Comfort](#)
- [ProFlex](#)
- [Orfitrans](#): Orfitrans® Medium soft & Extra soft
- [Thermolyn Supra Soft](#) - OttoBock

Foam Inserts:

Polyethylene & EVA Foam

- Medium Density - Durometer - Shore ~35

Manufacturers:

- Keasey Cone - 10mm thickness
- Puff, Pelite®, Bocklite
- Multi-durometer manufacturers

Silicone Insert Materials:

Custom Rolled Silicone Manufacturers:

- Ortiz International - Mexico
- OttoBock - Canada
- SPS - Orlando
- ST&G - California
-

3D Printing an adjustable device:

Please contact Mike Marten at Click Medical: mike@clickmedical.co

Other:

- Multiple Sock Interface (no insert)
- Gel Liner Interface (no insert)
- Skin-Fit Suction (use flexible plastic or Keasey Cone)

Lamination Layup Options:

Single-stage Lamination:

Kit components are placed between layers of material. Since they are not fixed to a rigid surface, we recommend using simple lace patterns. To decrease tube and collar migration during the lamination process, position components between layers of non-stretch fabric.

1. Inner Layers: 2 Finish Nylon + 2 Glass + 1 Bi-Directional Carbon + 1 Perlon (tight)
2. Place collar and tube in desired locations (cloth tape or light spray glue on the sheath and collar can help secure in place).
3. Outer Layers: 1 Perlon (tight) + 2 Glass + 1-2 Bi-Directional Carbon + 2 Finish Nylon
4. Laminate (Use 10-20% more resin than normal)

Double-stage Lamination:

Kit components are securely fixed to the rigid first lamination layer. This allows for more precise and complex lace patterns.

1. Inner Layers (1st lamination): 2 Finish Nylon + 2 Glass + 1 Bi-Directional Carbon + 2 Finish Nylon
2. Perform 1st lamination: Use resin of choice
3. Bond collar with 60 second adhesive, bond tube w/super glue (lightly sand surface for better adhesion)
4. Outer Layers (2nd lamination): 2 Glass + 1-2 Bi-Directional Carbon + 2 Finish Nylon (Use 10-20% more resin than normal)

Note:

- Heavy duty laminations may require more layers of Bi-Directional Carbon
- Reinforce narrow areas of frame that are less than 5cm with additional unidirectional carbon
- To decrease bridging around collar, cut hole in outer layers and expose collar dummy



Pad Material Options:

Padding is used on the inside of panels, and/or parts of the frame, to provide compression for the user. We use pad thickness and shape to fine tune the pressure and fit. Flat or convex pad shapes help deflect the socket insert material and create more compressive forces.

Pad Materials:

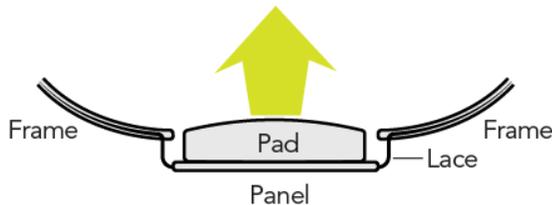
- Average pad material thickness: 6 mm – 10mm
- Thickness will vary depending on amount of compression needed
- **Use pad thickness and shape to fine tune pressure and fit**

Types of Foam Pad Used:

- Polyethylene - medium density - durometer - shore ~35
- EVA - medium density - durometer - shore ~35
- Other Medium density foams Manufacturers: Puff, Pelite, Bocklite

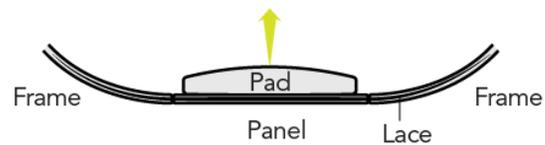
Pro-tip: It is easier to grind down a thick pad than to add more padding to a thin pad when optimizing fit.

Pad Thickness :



Good Closure Force

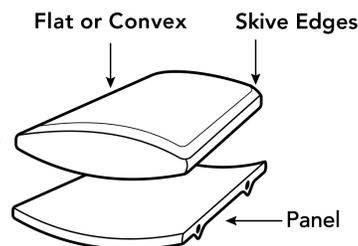
Thicker padding, positions the panel outside of the frame surface creating better closure force.



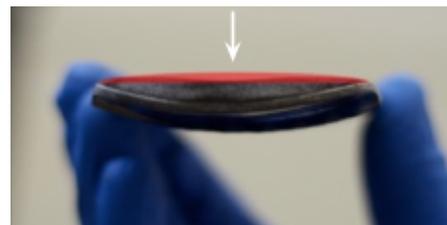
Weak Closure Force

When padding is too thin, the panel compresses too quickly and the closure force is minimized.

Pad Shape:
Flat or slightly convex shape allows for better application of pressure.



Flat Pad Shape



Note:

- If panel has a large radius, add more padding in the deepest part of the radii, and skive edges.
- Narrow panels deflect insert material easier and more effectively than wide panels.

Cutting and Finishing Tools:

It's important to make sure any edge that the lace crosses over is perfectly smooth. Use 1000 grit wet/dry sandpaper to smooth edges. Any sharp edges will fray the lace and cause it to break prematurely. Make sure to hand check all edges for smoothness before delivering device to the user.

Cutting Tools:

There are two options:

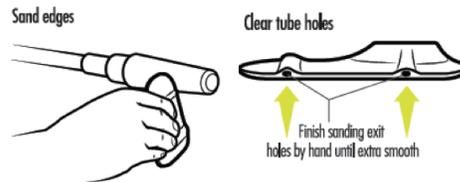
Use an oscillating cast saw with a segmented blade to cut tight radius turns. A jigsaw with pad over the skid plate to protect the device may also work.

- **DO NOT USE** Dremel or Roto-Zip tools. They are difficult to control and you will likely damage the device.



Finishing Tools:

- Buff edges on grinder until smooth.
- For each panel, clear debris out of tube and trim flush to panel with a fresh razor blade.



- Use **1000 grit sandpaper** and hand sand socket edges around tube ports.
- Use buffing wheel and buffing compound for an extra smooth finish.



Suspension Options:

Mechanical locks, knee sleeves, suction, seal-in and vacuum suspension systems can all be used with Revo products. Fabrication techniques will vary when using a knee sleeve.

- Compatible Locks
 - Mechanical Locks:
 - RevoLock® 4-Hole (SKU RL-300-07-01) RevoLock® Align (SKU RL-301-07-01)
 - Most pin and clutch lock systems
 - Straps, lanyards, etc...

- Valves:
 - Suction Suspension Valves
 - Lynn Flex-connect valves
 - Cyprus Adaptive Aria valves
 - Elevated Vacuum Systems
 - WillowWood One System
 - WillowWood Alignment Posts to secure insert to frame
 - OttoBock Harmony E2
 - Ossur Unity
 - 5280

- Knee Sleeves:
 - To create suction or EV with a knee sleeve, the sleeve needs to be positioned between the flexible insert and frame
 - A void is created under the PVA bag for the knee sleeve to live
 - Use a suction or EV valve (above) to connect insert to frame
 - Can use WillowWood Alignment Posts to secure insert to frame
 - Secure knee sleeve to insert with tape or strap

- Seal-in Systems:
 - Compatible with single or multi-seal systems
 - Areas of adjustment can span across gasket areas
 - Use a suction or EV valve (above) to connect insert to frame
 - Can use WillowWood Alignment Posts to secure insert to frame

- Bone Lock:
 - Use the system to create an adjustable bone lock (Symes, KD, PF, etc..)
 - Use the system to create a hinged Supracondylar panel