



„Precise control despite dirt and work gloves? That’s when I called **Elektrosil.**”

In addition to the control function, keypads of industrial controllers keep harmful substances such as oil away from the electronics. Elektrosil designed an ergonomic membrane keypad with IP67 protection.

### THE CHALLENGE

The customer needed an extremely resistant keyboard with a non-slip feel, suitable for operation while wearing gloves. It should protect the device’s electronics from abrasion and against harmful external factors such as moisture. This required sealing according to IP67 and chemical resistance according to ISO 16750. The material hardness of the rubber, pinning and design, as well as the backlighting for the keypad, were determined in advance, as was a service life of at least 750,000 operating cycles.

### THE SOLUTION

Elektrosil developed a 3D model, which is a combination of a membrane keypad and a rubber pressure-sensitive mat. For its implementation, the engineering team worked closely with two keypad specialists from its own network: A specialist for rubber pressure-sensitive mats produced the rubber mat with keys and took over their lacquering and labelling by laser technology. The operational elements contained cushioning rubber and raised surfaces. A structural ridge around the circumference was integrated onto the back side of the keypad to protect against moisture. An expert in membrane keypads produced the durable top layer – a printable overlay film.

The specialists created an adhesive solution with the strongest adhesive force to bond the polyester material to the housing. Furthermore, a switching layer with LED lighting for the keys and status display was produced. Elektrosil coordinated all the processes and agreements between the parties involved. The project ran over several phases, in which various new samples were developed.

### OUR STRENGTHS

- Solid expertise in the field of keyboards
- Specific branding through printing on the front foil
- Customer proximity with daily coordination, updates and simulations

**Are you also looking for a custom-fit solution for your system and a competent partner? Then give us a call: +49 40 840001-0.**

### Project information

- Client: A leading global supplier of automation technology
- Project size: 40,000 units per year
- Sector: Industry
- Product area: Keypads
- Services: Keypad development using a 3D model, adhesive development, materials consulting, assembly production, 100% quality control

### Elektrosil’s services

- Application consultation, development assistance, design-in support
- Quality assurance
- Engineering and production
- Completely customised applications