

## General properties

The lighting market demands individual solutions, which adapt to the needs of the respective customer. With our facilities for finishing, reworking and individualising your products, we are ideally equipped for this competitive environment.

With our extensive options for finishing profiles and tubes, we are able to adapt to the wishes of our customers. Due to the high degree of specialisation of our machining centre, we are also able to offer special solutions. Our customers receive individually produced profiles. Their functionality can be expanded using all kinds of different options open to us.

Not only do we use materials provided to us by our customers, but also components purchased from partners. Thanks to our extensive network in the lighting industry and its suppliers, we offer solutions based on the "single source" principle.



## Ultrasonic welding

Ultrasonic welding is a joining method, which connects end caps to profiles. Either the same type or related type materials can be welded together. The mating part to be welded onto our profile must be designed for this welding procedure from the outset. Our design department will gladly assist you. We can also use our partner network to find a suitable supplier for the relevant parts.

The procedure has a convincing, very short cycle time and is therefore particularly suitable for large quantities of items, which have to be produced within a short time. In addition, the weld is also absolutely leaktight all the way around. This is helpful in achieving specific IP classes – and does not produce a visible bead.

Due to a quick-release system for the workpiece holders, produced on our in-house 3D printer, the system has very short tooling times.



Cycle time	< 1 sec.
Max. area	220 mm x 220 mm
Max. profile length	4300 mm
Angular welding	0° to 25°

## Sawing

Elkamet has several double circular saws, with which high-precision length tolerances can be achieved. Depending on the profile geometry, we work within the range of  $\pm 0.3$  to  $\pm 0.5$  mm for our standard product lengths.

Additionally, to limit tolerances angled and mitre cuts are also possible, due to the adjustable saw blades. These allow for complex installation situations in the final use.

Special saw blades and a drive, custom-made for machining plastics prevent the workpieces from breaking or splintering during cutting. The cut edges are absolutely smooth and are suitable for further machining (e. g. ultrasonic welding).

Length tolerances	$\pm 0.3$ mm to $\pm 0.5$ mm or larger, length dependent
Max. machining length	Contour-dependent, min. 3500 mm
Angled sawing	0° to 45°

## Milling/cutting

Our 5-axis milling machines give us maximum flexibility for the individual requirements set for our products. We use our milling capability to make short and elongated holes, radii, chamfers/bevels, threads and even large recesses or cutouts for subsequent installation of further attachments.

Furthermore, panel material bonded onto the end face can be cut to the contour of the respective profile, which provides a cost-effective alternative to injection moulded end caps.

The process is purposely adapted to the respective requirement (material, size of the cutting area) by using different milling-cutting heads. Due to very small milling-cutting heads with 2 mm diameter, we are also able to undertake intricate routing work true to drawing.



## Bonding

Various bonding methods enable us to extend our products to include end caps, frames or other attachments. As an alternative to ultrasonic welding, with the help of 2-component (2-part) adhesives, end caps made of other materials can also be joined onto our profiles and tubes. This allows for greater freedom in the material selection. For our customers, bonding is a quick and economic solution for small series. We only use the high-tech adhesives of renowned manufacturers, which meet present day requirements for chemical resistance and fire safety

## Equipping/assembly

Our skilled employees equip profiles with all kinds of different attachments. For example, diffuser foils, prism panels or electronic components. Due to a perfected handling and logistics system, we are able to mount all kinds of different assemblies and pack them according to individual customer requirements. In this way our customers receive products, which are already prepared for final installation.

