

# SURFACE TECHNOLOGY

HIGH QUALITY SURFACES WITH  
OUTSTANDING PRECISION AND BEAUTY

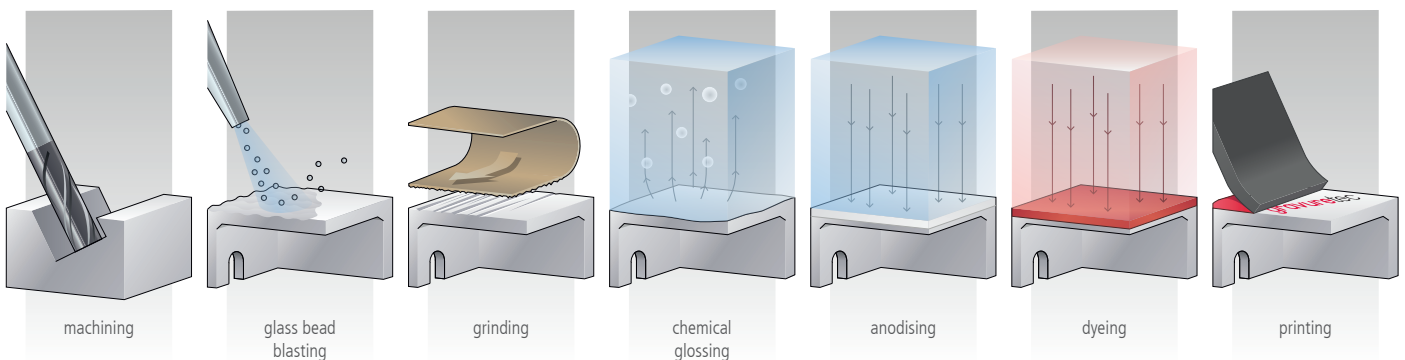
gravuretec



## SURFACE TECHNOLOGY

**Aluminium makes it possible to produce attractive high-end parts. Its material properties, weight and metallic feel are indeed reason to take advantage of aluminium's special mechanical and decorative characteristics.**

The production of aluminium parts involves a series of processes, all of which have been developed by gravuretec. Equipment, baths and machinery are all on-site. Expert staff with many years of experience and an eye for detail make this possible.



**'Production of aluminium parts – all under one roof.'**

**Everything under one roof: short cycle times with monitored interfaces**

**Machining:** Large parts milled from the solid material. End-to-end processing. Freeforms. Four systems, two of which are 5-axis processing centres. Maximum dimensions for end-to-end processing: 450 x 450 x 150 mm. Pallet changer for unmanned cycle times.

**Glass bead blasting:** Matt surfaces that are like velvet to the touch. Bead sizes ranging from 90–150 µm to 400–600 µm.

**Grinding:** Character and style achieved by a selective grinding pattern.

**Chemical glossing:** For that very special look. A chemical abrasion bath process gives aluminium that very special decorative shine.

**Anodising:** The transparent, extremely hard oxide layer protects the aluminium and seals in pigments. Fully automated anodising line.

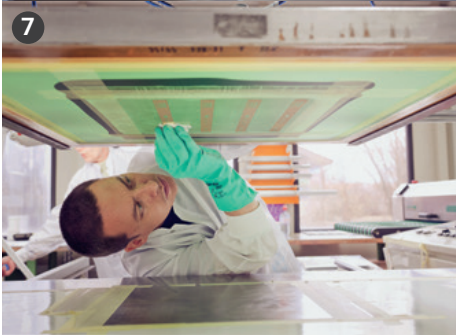
**Dyeing:** Immersion bath dyeing process. The pigments are sealed into the oxide layer and do not wear off. Wide selection of colours.

**Printing:** Sub-oxal process for screen or digital printing. Prints with different colours and paints. Highly experienced team. Cleanroom.



**Domingos Ventinhas**  
**Division Manager Surface Technology**

*'For over 20 years, I've been working with surface technology at gravuretec and it has been constantly expanded and optimised. Because we have all processes on-site, we're able to produce more attractive parts in less time.'*



## PROCESSES

1. Hermle machining centre with pallet changer system
2. Glass bead blasting
3. Grinding machine
4. Chemical glossing
5. Anodising
6. Dyeing
7. Screen or digital printing using sub-eloxal printing

Get in touch with us. We'll be happy to assist you.

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The creation of decorative surfaces requires experience and knowledge of the processes, quality equipment and staff capable of meeting the challenge of producing impeccable parts. gravuretec – precision works has been working with aluminium for over 80 years. The company's evolution into a finishing centre for aluminium parts with control of the entire process chain is the outcome of decades of experience.

gravuretec is synonymous with technical expertise, high flexibility, even for small batches – and unparalleled quality. The company offers surface technology for casing, input systems and industrial signs.

***'gravuretec has been working with aluminium for over 80 years.'***

Customised input systems, fronts, casings, industrial signs, electronics and device assembly. The right product to meet every requirement. Produced in-house or sourced from qualified suppliers worldwide.

# ALGRA GROUP

## ALGRA

industrial technology

Industrial production of customised touch input systems, fronts and industrial signs. Modern production for medium to large volumes. Comprehensive assembly for devices featuring all manner of electronics systems. Innovative products and manufacturing processes thanks to in-house research and development. Systematic, analytic approach.

## gravuretec

precision works

Precision work for the production of customised industrial signs, fronts and high-end casings. Machining, glass bead blasting, polishing, anodising, printing and coating of complex aluminium components.

## connect tec

worldwide technologies

Qualified input systems and supplementary components, piezo elements of all kinds from selected manufacturers worldwide to fulfil sophisticated requirements.

## TRIMADA

electronic systems

Hardware and software development, electronic circuits and assembly of devices using electronics, including mechanics, casings and front panels. Implementation of customised solutions thanks to in-house production.

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