

# LASINK™ Origin

Protecting polycarbonate ID documents with a highly secure and durable color portrait

LASINK  
ORIGIN

With technologies used by fraudsters constantly improving, governments secure identity documents that authorities and private organizations can immediately and easily authenticate. LASINK™ Origin is a laser engraving technology that generates secure high-quality color portraits on polycarbonate identity documents. Its distinctive linear pattern makes it instantly recognizable.

## Color portraits on polycarbonate ID documents

The irreversible personalization of color images inside polycarbonate credential substrates is a challenge.

With standard printing on the document's surface, the color photo needs to be protected by an overlay or a varnish, resulting in compromised document integrity as well as loss of tactile features.

Printing the color photo in one of the polycarbonate layers before the lamination step during manufacturing is a secure solution. However, it makes the issuance process inflexible.

The most secure and flexible technique is the use of a laser that engraves a photo with gray tones into the polycarbonate. But this limits personalization to black and white pictures.

## LASINK™ Origin

With LASINK™ Origin, the color portrait of the document's holder is engraved directly into the polycarbonate structure by a laser during the personalization stage.

LASINK™ Origin color photos have a unique linear pattern that acts as a signature to authenticate the document.

Its recognizable design cannot be imitated with any digital printing technology or forged as the picture is within the substrate and not on the surface. The ID document cannot be delaminated without leaving a trace.

The personalization technique is kept secret and prevents the use of stolen blank documents, as they cannot be properly personalized without the use of the dedicated software.

LASINK™ Origin gives flexibility to governments: it can either be used in central or decentralized personalization solutions.

LASINK™ Origin is robust and offers a ten-year lifespan.

## Benefits



### Fraud-resistant

LASINK™ Origin is resistant to all types of fraud. It is nearly impossible to reproduce the picture or to forge it. It also prevents the reuse of stolen blank documents as it is a proprietary personalization technique.



### Easy-to-authenticate

LASINK™ Origin matrix makes its authentication easy. It is recognizable either with the naked eye, by using a dedicated filter that creates a moire effect with the linear background of the LASINK™ Origin matrix, or by using a magnifying glass. It can also be authenticated by a scanner making its verification possible by non-experts in document inspection.



### Durable

LASINK™ Origin color portraits are laser-engraved into the polycarbonate substrate, with a ten-year guarantee of durability and resistance to abrasion even under the most demanding circumstances.

# How it Works

## LASINK™ Origin matrix

A LASINK™ Origin matrix, made up of a succession of four colors-cyan, magenta, yellow, and white-is printed on a layer of the polycarbonate structure during the manufacturing of blank documents. The security printing technique used to obtain these fine lines, avoiding the overlap of the four primary colors, is used in the production of state-of-the-art security documents.

At the personalization stage, the color picture of the ID document's holder is

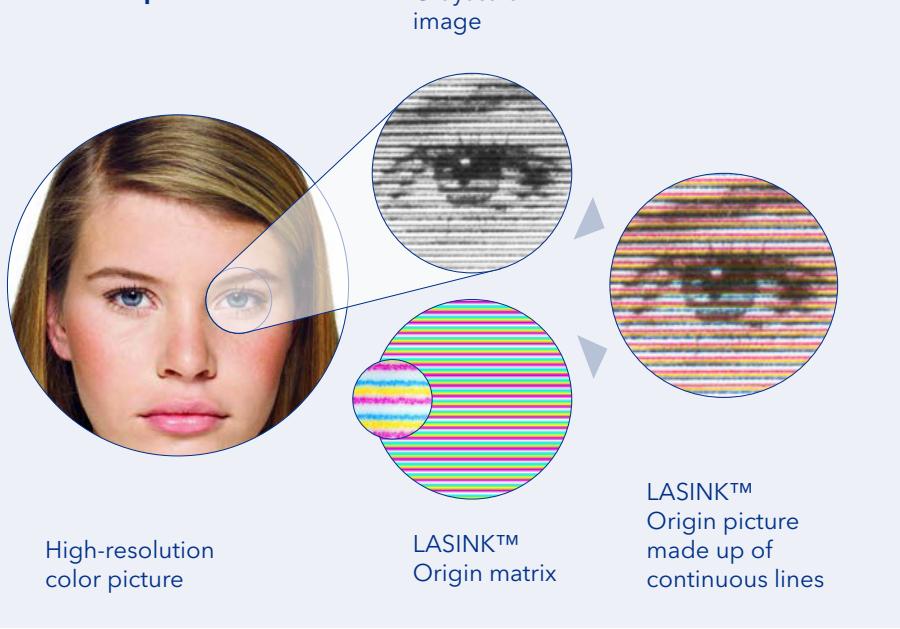
translated into a grayscale high-resolution specific pattern via a secret algorithm.

During laser-engraving, the gray dots will be perfectly positioned above and below the primary colors of the LASINK™ Origin matrix, revealing the color portrait.

IN Groupe can provide laser-engraving equipment customized for LASINK™ Origin or recommend LASINK™ Origin qualified laser technology.



### Hard to reproduce



### Easy to authenticate

#### Level 1

Naked eye



#### Level 2

- Decoding lens
- Magnifying glass
- OMA\*
  - with scanners
  - with smartphones



#### Level 3

PUF (Physical Unclonable Function) with very high resolution scanner



### Cutting-edge technology

LASINK™ Origin color matrix is printed using the state-of-the-art technology used by governments to print national ID credentials.

The grayscale laser engraving is perfectly registered to the colored matrix, thus allowing color revealing.

The photo is processed through a secret algorithm developed by IN Groupe that enables accurate laser engraving.

