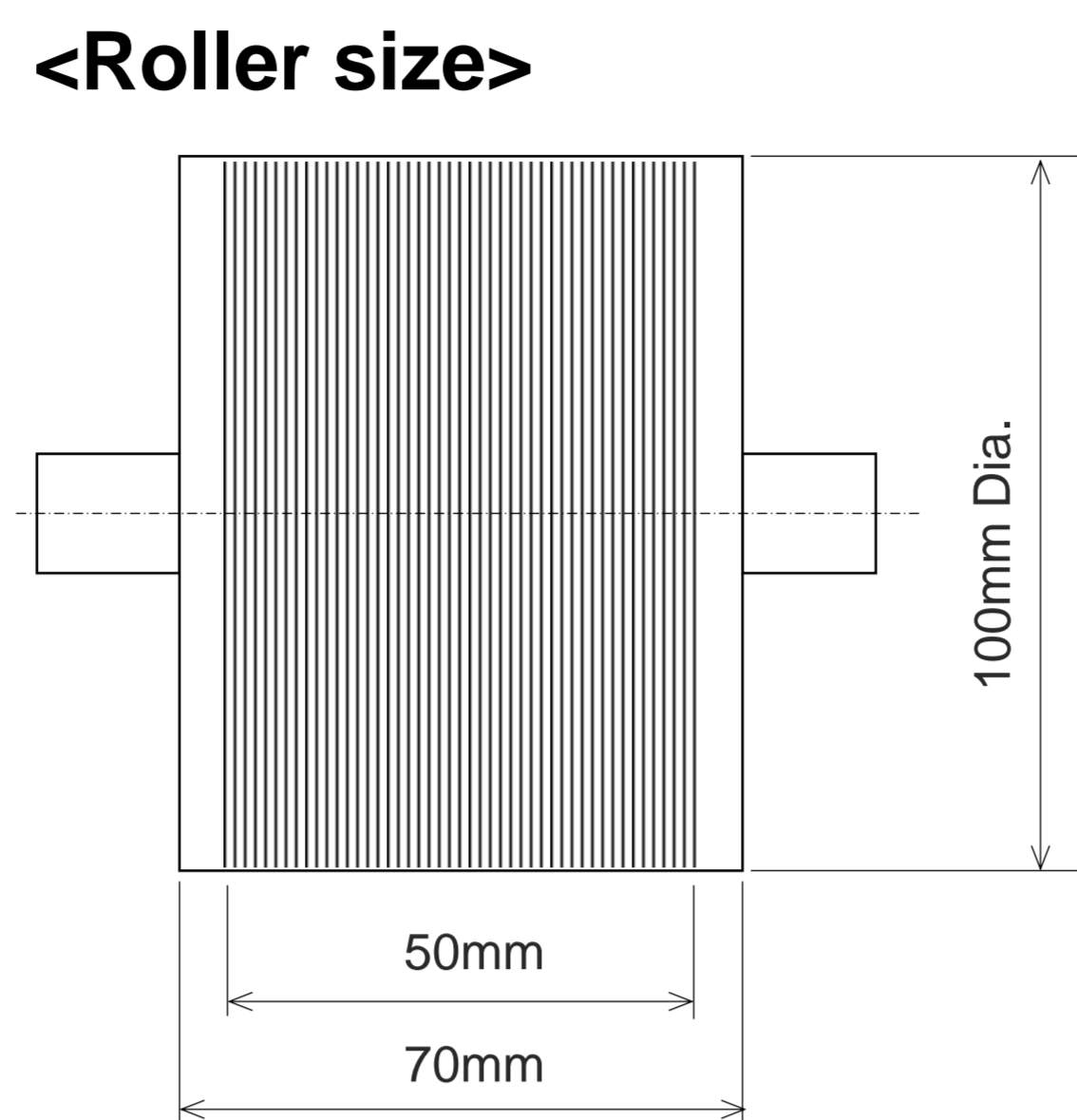
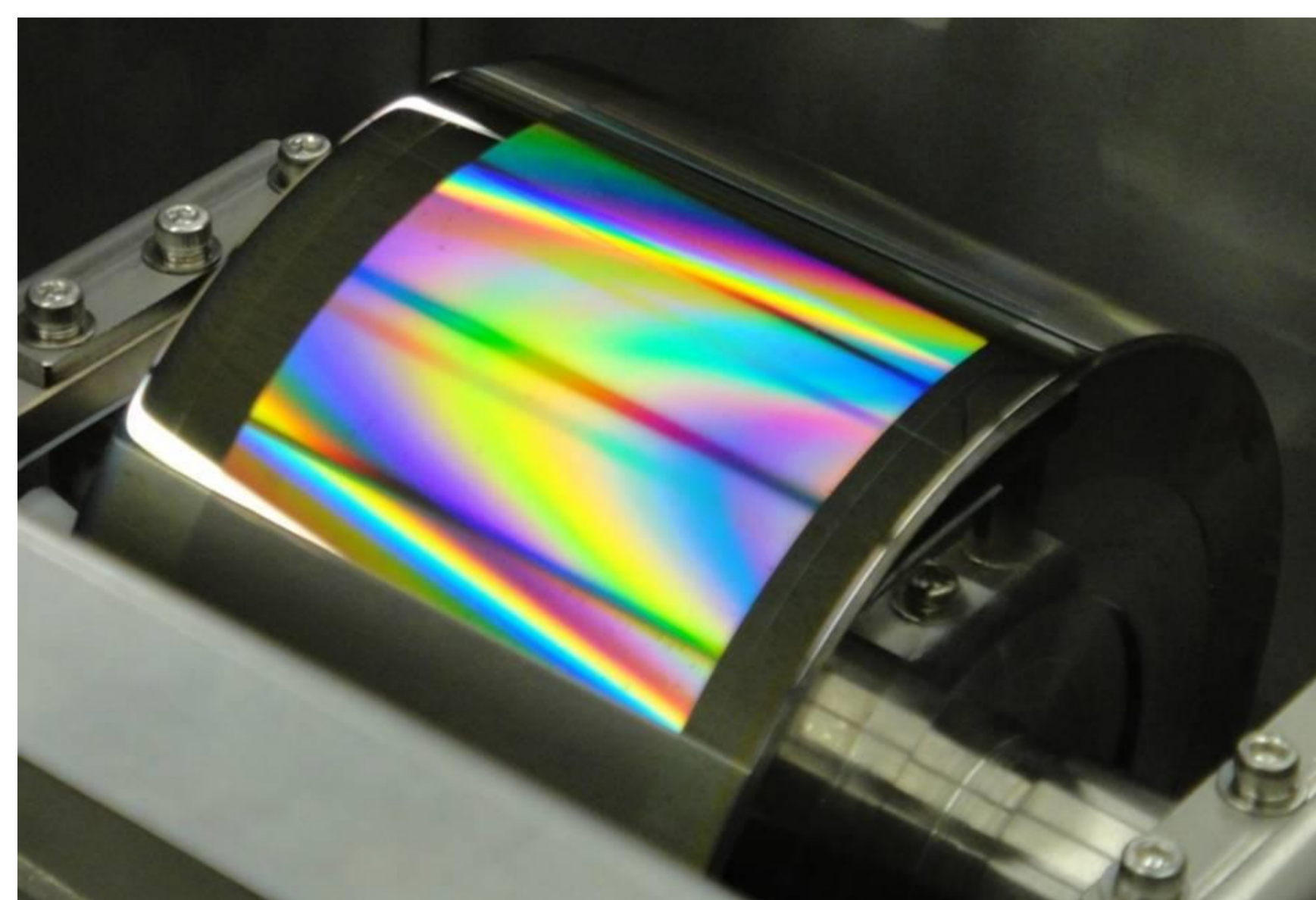


Large Area Seamless Roller Mold

For the R2R Imprinted/Printed products

More information about SRM : Naoto Ito (ito.nh@om.asahi-kasei.co.jp)
Asahi Kasei corporation, Corporate Production Technology Div.

Large-area **Seamless** Roller Mold (SRM)
with minimum line width under **100nm**



3. Imprinted and printed samples

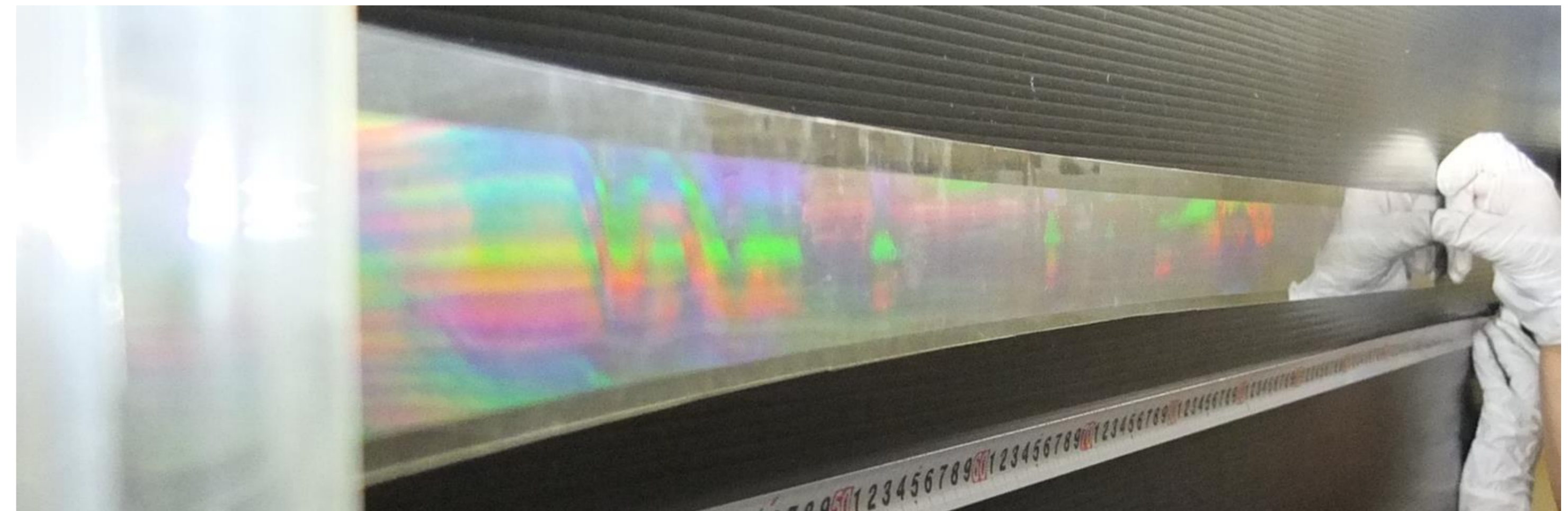
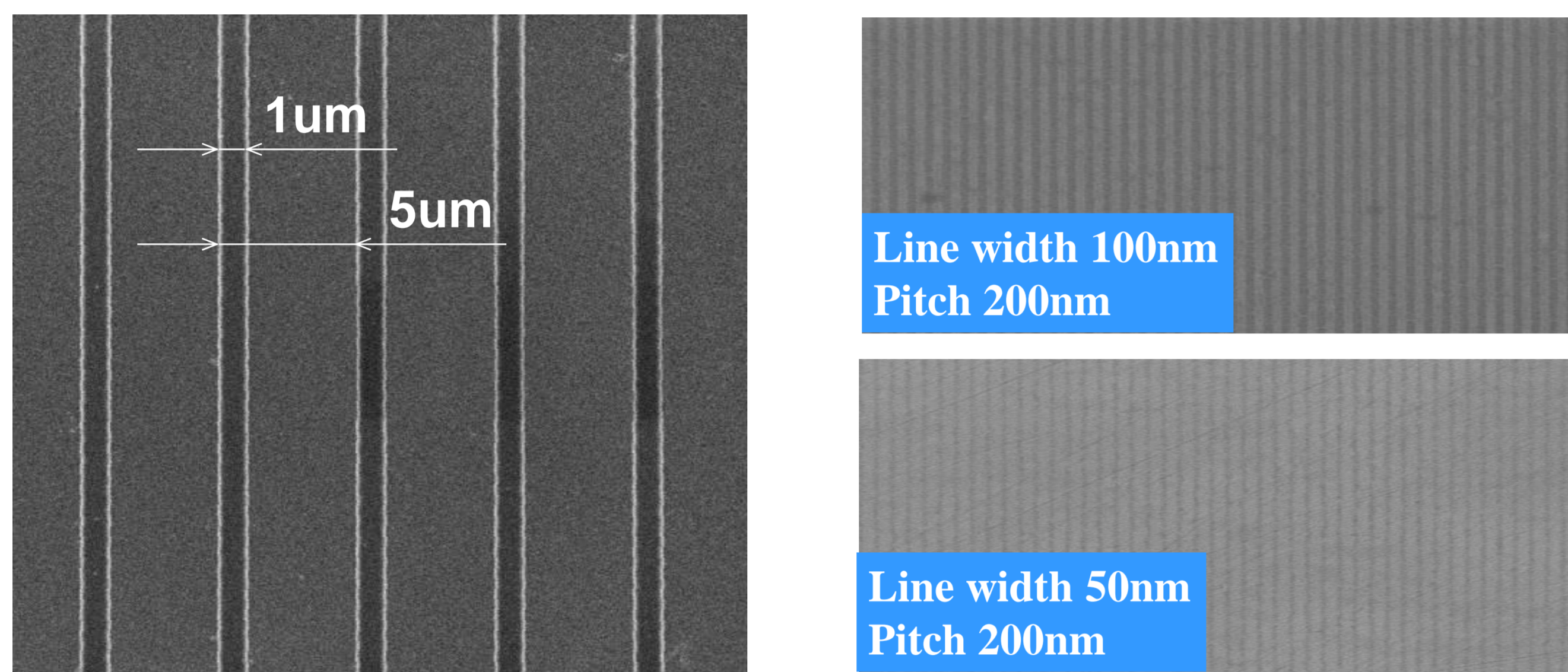
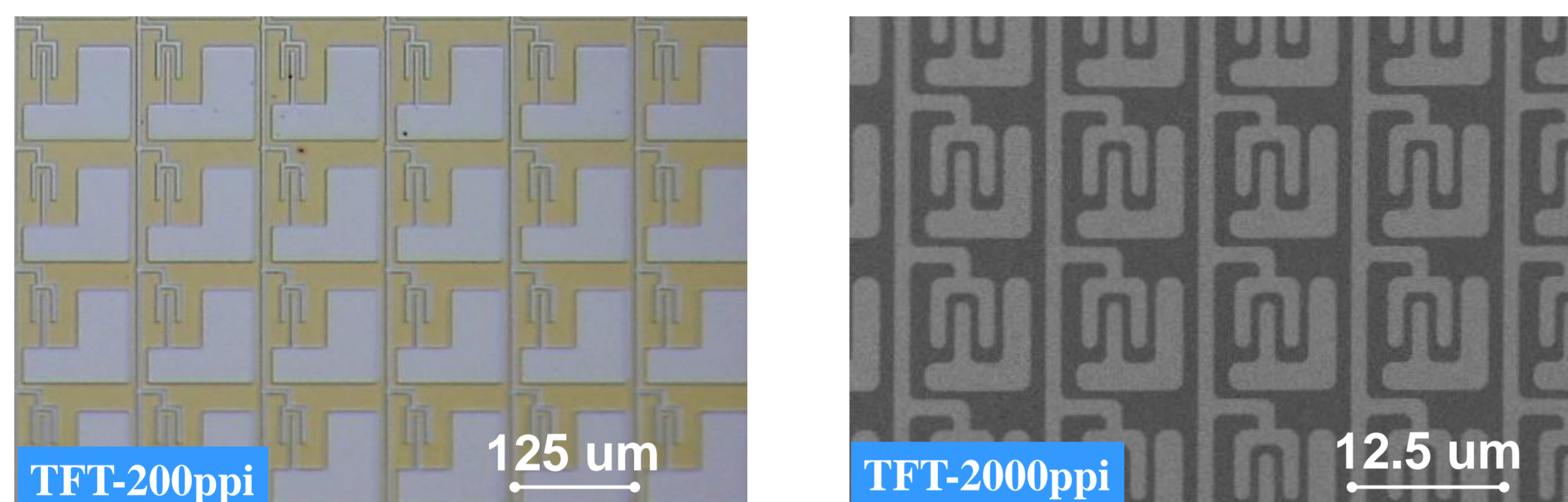


Photo of seamless imprinted patterns on PET film

<Patterning variation sample>

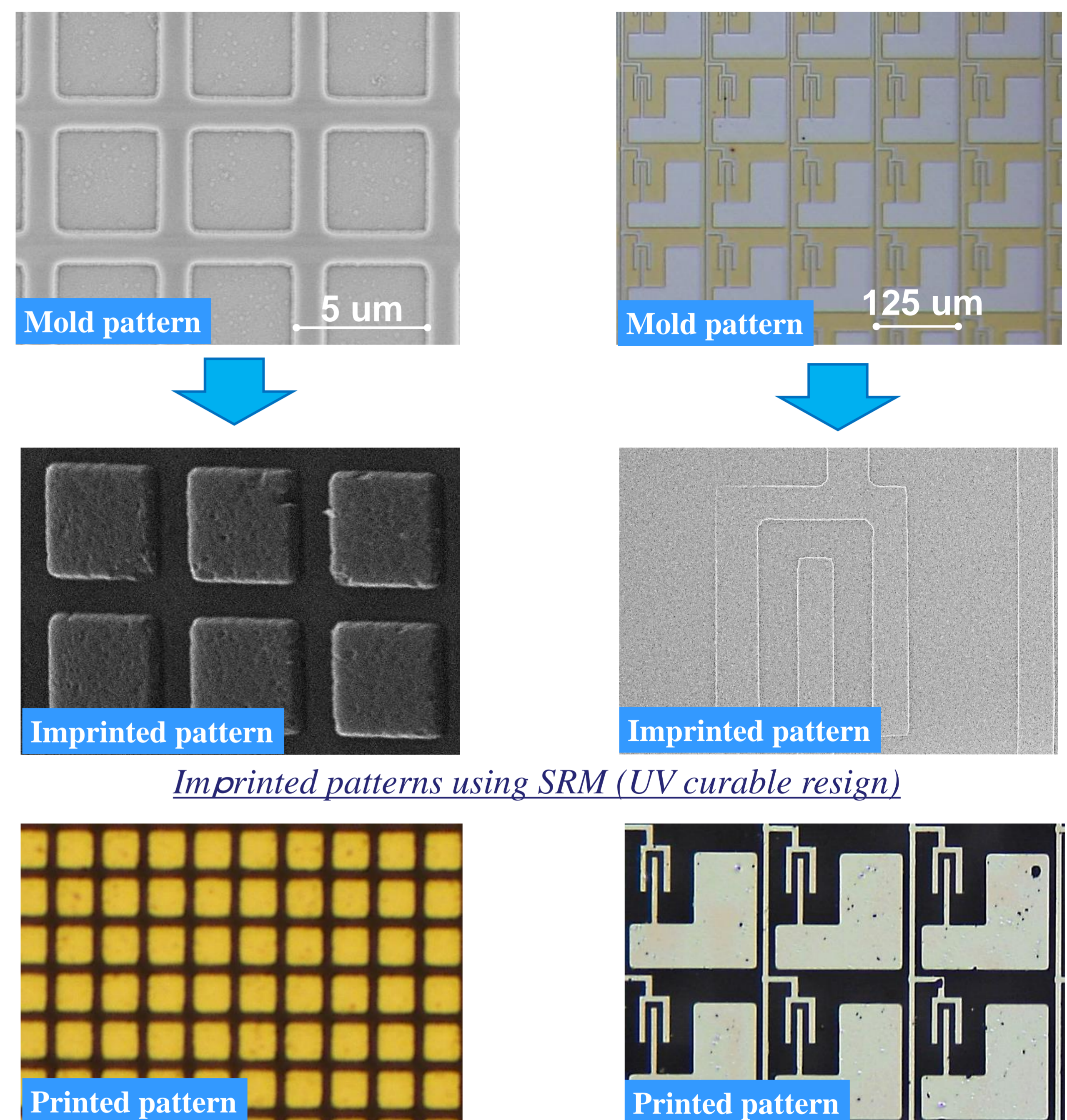


Example of line and Space patterns



TFT electrodes pattern

< Imprinted and Printed samples >



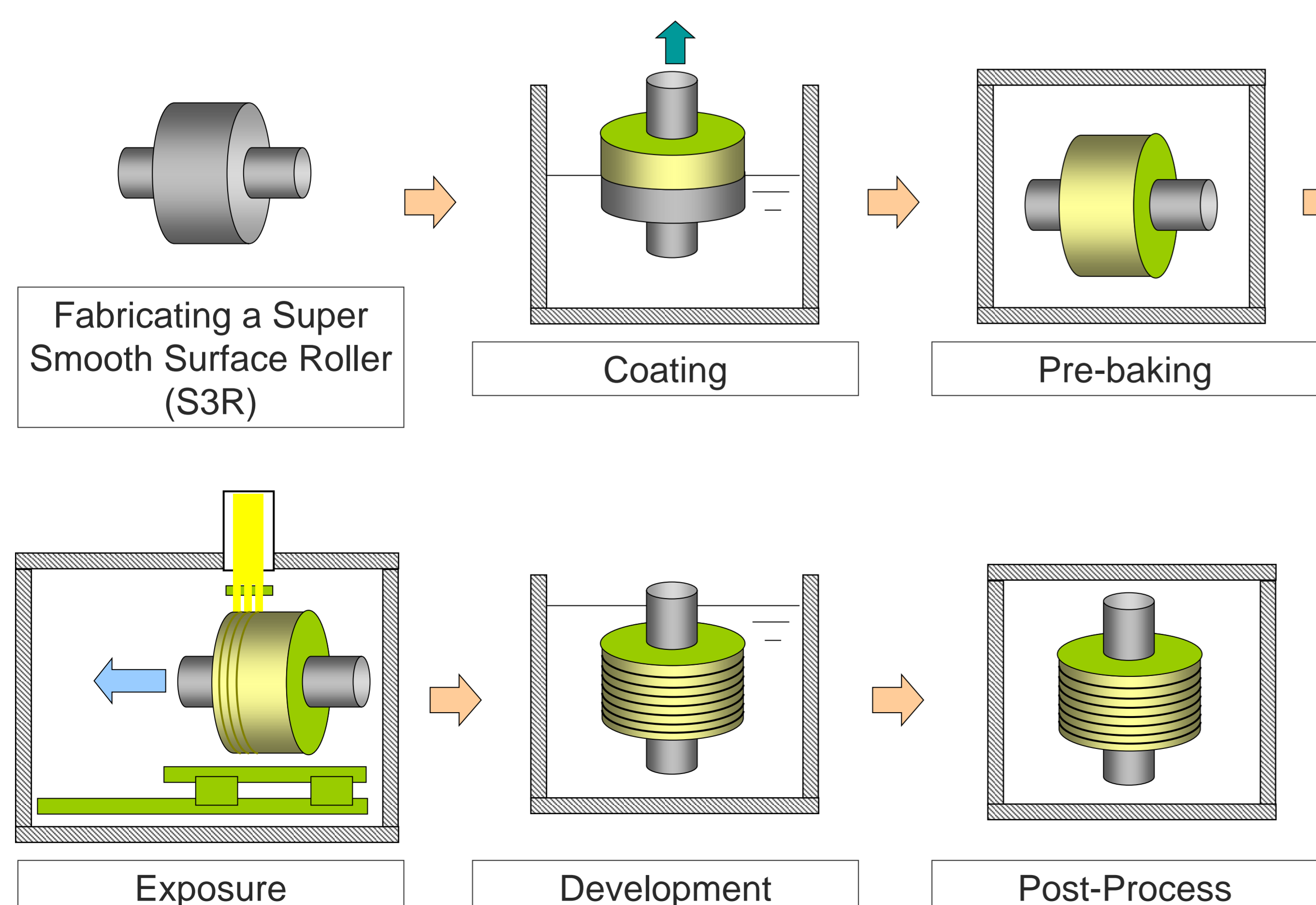
Imprinted patterns using SRM (UV curable resin)

Printed patterns using SRM (Silver nano ink)

1. Introduction

A lot of companies and institutes have been developing flexible electronics devices and optical devices. One of the important feature of flexible devices is low cost, which is enabled by roll-to-roll (R2R) manufacturing process. However, this R2R processes require large-area seamless roller mold (SRM) which has not been easy to achieve. We have succeeded in the development to enable the achievement of such a SRM. This SRM's diameter is 100 mm, and roller width is 50 mm. On its surface, we made several kind and resolution patterns in 50 mm width. We also made some Imprinted or printed films by using this SRM.

2. Fabrication process for SRM



4. Asahi Kasei's roadmap

Asahi Kasei has been producing optical films and various kind of electric devices. We are going to produce further variety of products with R2R processes. Now we are developing to make SRM larger and finer. It will be needed to realize future products. Near future, we will be able to show you the detail of a new SRM.

