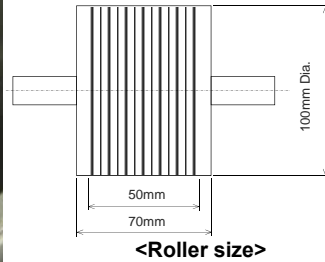
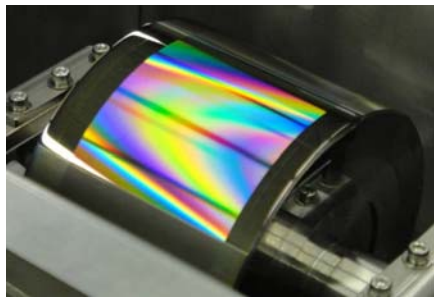


Large Area Seamless Roller Mold

For the R2R Imprinted/Printed products

More information about SRM : Tsuneharu Tanaka (tanaka.tvf@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

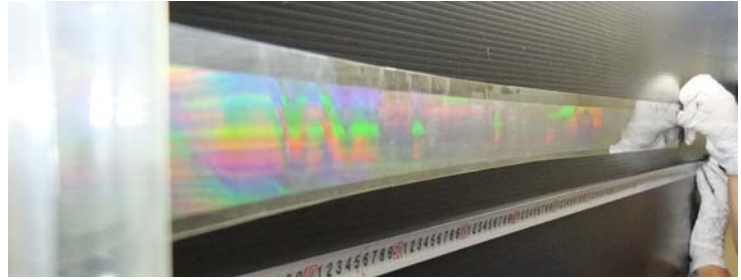
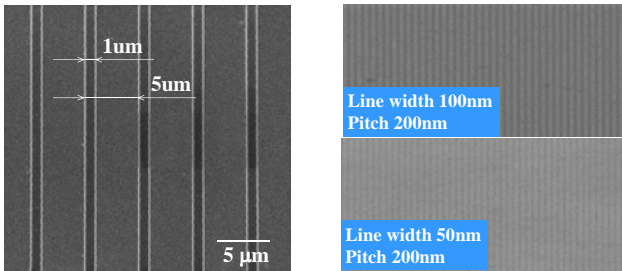


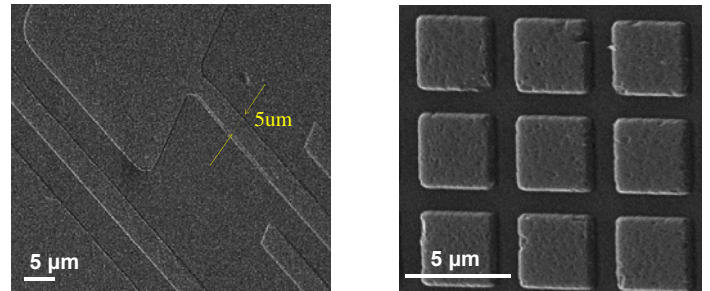
Photo of seamless imprinted patterns on PET film

<Patterning variation sample>



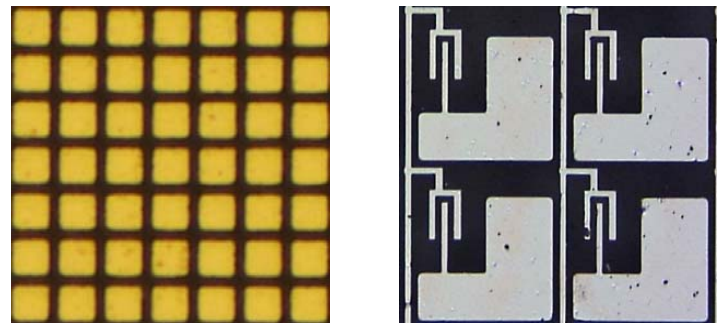
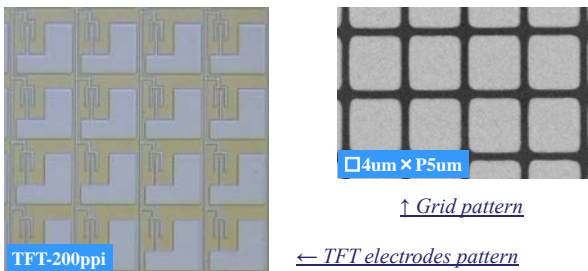
Example of line and Space patterns

< Imprinted samples >



R2R imprinted patterns on PET film

< Printed samples >

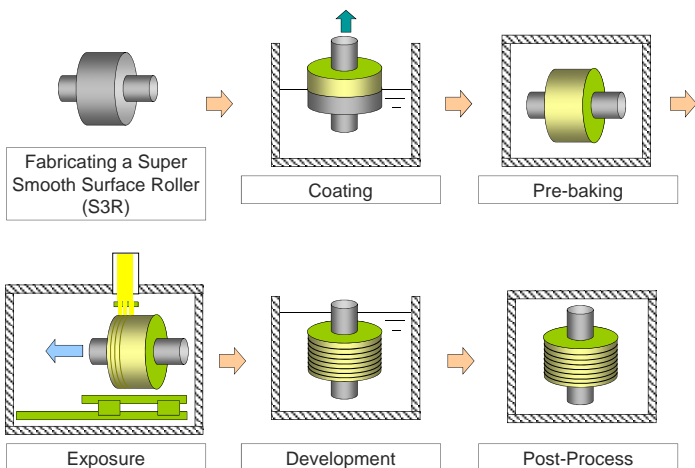


Printed patterns using SRM (Silver nano ink)

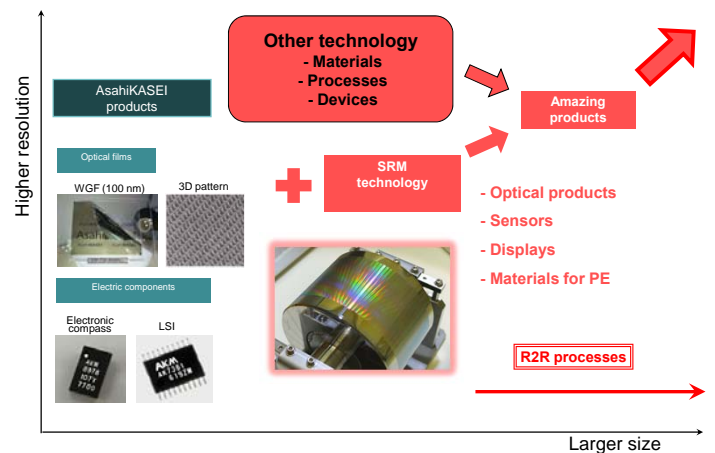
1. Introduction

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. SRM fabrication technology for more larger, finer will be needed to realize future products, so we are now developing these technologies.