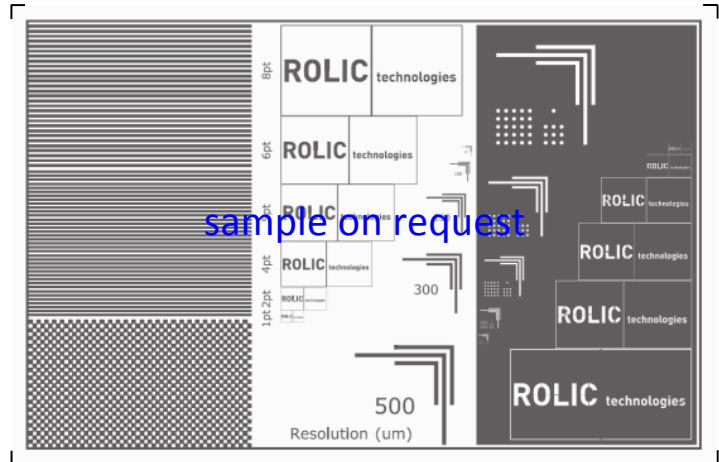


Rolic® LCMO Demonstrator:

LCMO Film Patterned Retarder (FPR)



Description Rolic® LCMO film patterned retarders are a cost-efficient solution for the design of 3D displays. They allow reducing cross-talk and thus improving brightness.

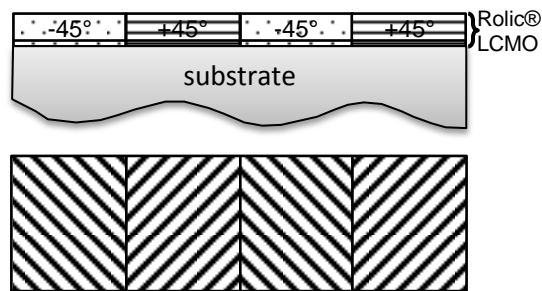
Features Rolic® film patterned retarder are produced using the Rolic® LCMO (Light Controlled Molecular Orientation) technology, which is photo alignment of Linear Photo Polymerization materials (LPP) and subsequent orientation of Liquid Crystal Polymers (LCP).

This technology enables:

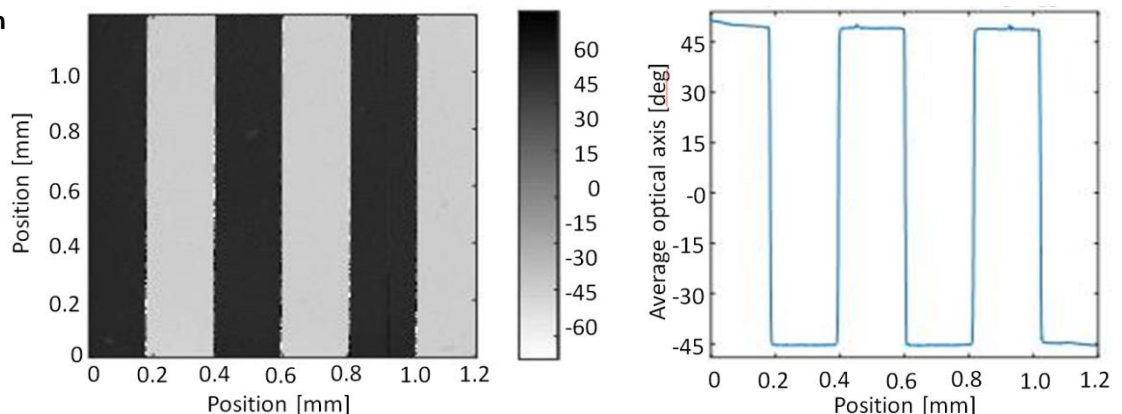
- combination with other LCMO-optical films
- wide substrate choice (also glass)
- pattern in form of pixel lines, chess board or any other pattern
- high resolution
- retardance adjusted to the specific requirements of the application.
- exact orientation of the optical slow axis and low cross talk between patterns

Stack design:

FPR-3D



Optical characterization



LCMO Film Patterned Retarder (FPR)

| | | |
|------------------------------------|---|--|
| Properties of Demonstrator: | Substrate | TAC (Cellulose Triacetate) |
| | Total thickness | <52 μm |
| | Substrate thickness | 50 μm |
| | Coating thickness | < 2 μm |
| | Line width of pattern | 0.2mm |
| | Transmission | >95 % @ 550 nm |
| | Retardation | $\lambda/4$ @ 550 nm |
| Life-time | Optical films produced with Rolic's LCMO technology will maintain their orientation even under thermal stress, high humidity and exposure to intensive visible light. | |
| Customization | While the demonstrators have been designed to showcase the application of Rolic LCMO technology in film patterned retarders, the same technology can also be used for customized solutions. | |
| Range of properties: | Substrate | any substrate (any chemistry, any thickness, rigid, flexible) |
| | Total thickness | depends on the thickness of the substrate |
| | Transmission | >95% @ 550 nm |
| | Retardation | adjustable to application e.g. $\lambda/4$ (QWP), $\lambda/2$ (HWP) or λ/x (any value) optimized for any wavelength range |
| | Patterning | in form of (pixel-) lines, chess board or any other pattern |
| | Resolution | > 10 μm |

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