

Rolic® LCMO Demonstrator:



LCMO achromatic Circular Polarizer grey (aCPg)

Description Rolic® LCMO achromatic Circular Polarizers grey are designed using Rolic's proprietary dichroic dyes in combination with Light Controlled Molecular Orientation (LCMO) technology. This design enables a flexible solution, wherever a thin polarizer is required and standard PVA polarizers in combination with a stretched retarder film are too thick or for other reasons not compatible.

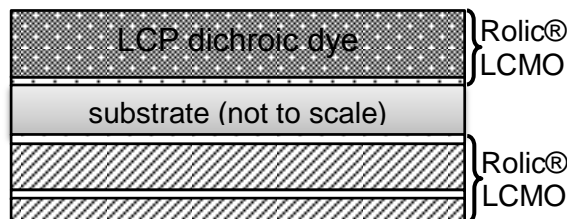
Features Rolic® film patterned retarder are produced using the Rolic® LCMO (Light Controlled Molecular Orientation) technology, which is photo alignment of Linear Photo Polymerization materials (LPP) and subsequent orientation of Liquid Crystal Polymers (LCP).

This technology enables:

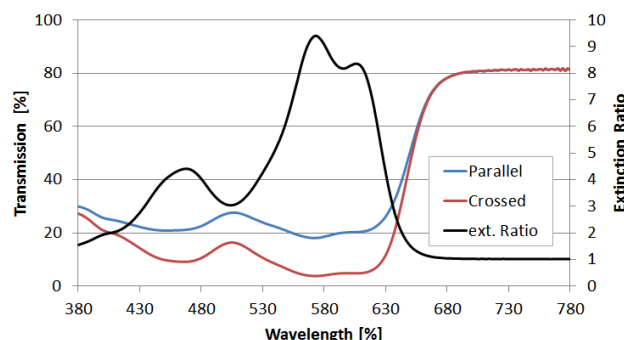
- combination with other LCMO-optical films
- wide substrate choice (also glass)
- thinner stacks compared to standard PVA polarizers in combination with a QWP-film
- pattern in form of pixel lines, chess board or any other pattern
- high resolution
- high environmental stability (UV-, thermal- and humidity- stable)
- exact orientation of the optical axis and low cross-talk between patterns

Stack design:

aCPg



Optical characterization:



LCMO achromatic Circular Polarizer colour options Rolic® (aCPx):



Properties of aCPg	Substrate	TAC (Cellulose Triacetate)
Demonstrator:	Total thickness	<65 µm
	Substrate thickness	50 µm
	Coating thickness	<15 µm
	Polarization efficiency	80 % @ λ_{max} (575nm)
	Color coordinates	L = 69, a* = 1.9, b* = 0.7
	Retardation	$\lambda/4$ @ 575 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 as a grey linear polarizer, the same technology can be used for customized solutions.	
Range of properties:	Substrate	any substrate (any chemistry, any thickness, rigid, flexible)
	Transmission	optimized @ required wavelength range
	Color coordinates	customizable (see picture on top)

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