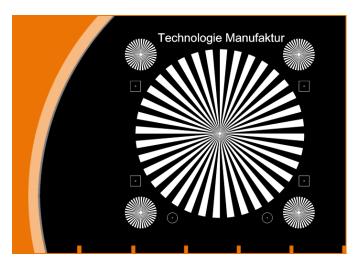
## Siemens Star TC-RT02

## Resolution testchart with very high precision



This resolution test consists of 5 Siemens stars and shows the peculiarity that the tapered segments in the center of the stars are precisely manufactured to a minimum width of 150 nm. Thus, this testchart is also suitable for the determination of the resolution of microscope objectives of very high numerical aperture.

Additional measuring and positioning marks facilitate the adjustment. The pattern is "negative", i.e. the Siemens stars are transparent.

Our high-resolution testcharts are made with high-precision e-beam lithography. A quartz substrate with broad spectral transmission (DUV-VIS-NIR), on which a chromium layer of high optical density is applied, serves as a support. The test structures are produced by ablation of the chromium layer, whereby structural sizes down to 100 nm are possible. At the same time, excellent dimensional tolerances and straightness of the structural edges is ensured.

For use with a microscope objective lens there is a version with a 0.17 mm cover glass available.

Substrate	Quartz wafer (fused silica), 10 mm x 10 mm x 1 mm (layout see next page)
Substrate holder	Microscope slide format 75 mm x 25 mm x 1.5 mm, Stainless steel with laser engraving
Patterned layer	Chrome, optical density OD >
	8@400 nm / 6@550 nm / 4.5@750 nm / 3.6@1 μm
Pattern	1 central Siemens star with 36 segment pairs (diameter 8mm) 4 small Siemens stars with 36 segment pairs each (diameter 1.5mm)
	6 measuring marks
Dimensional tolerance (max. absolute error)	$100  \text{nm/cm} = 10^{-5}$
Spectral transmission range	200nm – 2000nm
Cover Glass (optional)	0.17 mm optical thickness

## Siemens star testchart layout

