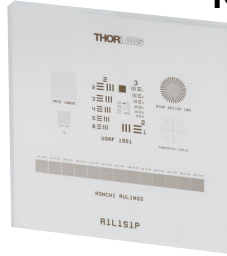
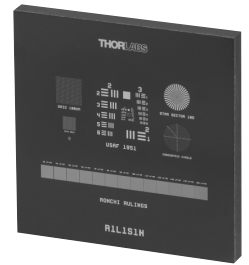


R1L1S1P



R1L1S1N



Description

The R1L1S1P and R1L1S1N test targets are designed for calibration of imaging systems and microscope stages. They have five different patterns: grids, 1951 USAF, star sector, concentric circles, and variable frequency Ronchi rulings. The R1L1S1P positive pattern is recommended for quality control of microscopes and magnifiers. The R1L1S1N negative pattern is ideal for collimators and other illuminated test equipment.

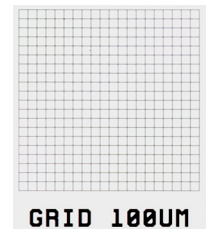
The Grid arrays are used to determine the distortion of an imaging system as the horizontal and vertical lines of the grid should be perpendicular to each other. A distorted image will show the lines as bowed; this image can then be used to correct for distortion. The 1951 USAF is used to determine the resolution of an imaging system. The star sector and concentric circles are ideal for identifying focus errors, astigmatism, and other aberrations existing in an imaging system. Variable frequency Ronchi Rulings are excellent for evaluating resolution, field distortion, and parfocal stability.

The reticle is patterned on soda lime glass with O.D.>3, low reflectivity vacuum sputtered chrome. The Low Reflection Chrome can be used with front lighting, without creating highlights that degrade the image of the target.

Test Targets

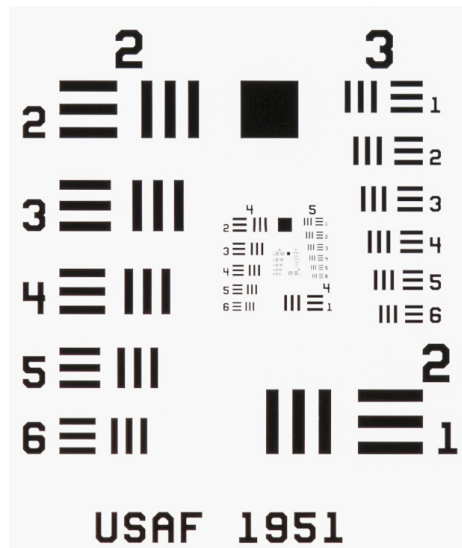
Grid Patterns

The grid pattern contains a 10 μm grid, 50 μm grid, and 100 μm grid. The 10 μm grid is a 20x20 array with 1.5 μm wide lines and 10 μm pitch in the x and y directions. The 50 μm grid is a 20x20 array with 5 μm wide lines and 50 μm pitch in the x and y directions. The 100 μm grid is a 20x20 array with 5 μm wide lines and a 100 μm pitch in the x and y directions.



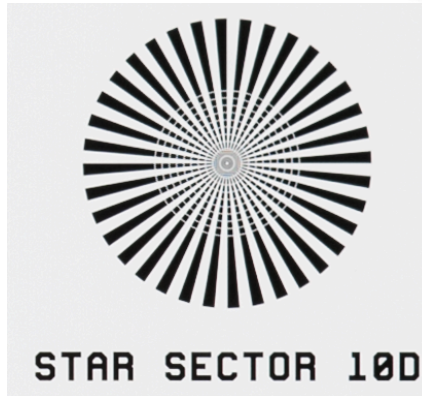
USAF 1951 Target

The standard USAF 1951 target has groups 2 - 7 for measuring resolutions from 4 to 227 lines per millimeter.



Star Sector

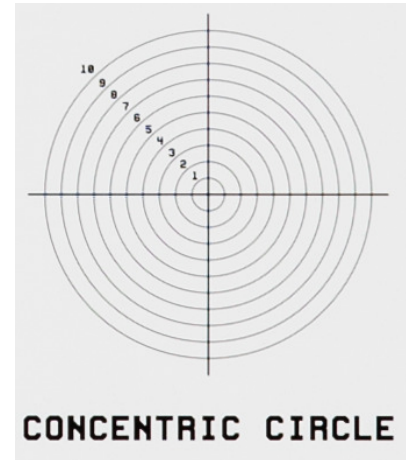
The star sector consists of 36 equal bars at 10° intervals. The star diameter is 2 mm. In the center, there is a $10\ \mu\text{m}$ radius clear hole. There are 10 clear concentric circles with radii: $50\ \mu\text{m}$, $100\ \mu\text{m}$, $150\ \mu\text{m}$, $200\ \mu\text{m}$, $250\ \mu\text{m}$, $300\ \mu\text{m}$, $350\ \mu\text{m}$, $400\ \mu\text{m}$, $450\ \mu\text{m}$ and $500\ \mu\text{m}$ on the chrome bars.



STAR SECTOR 10D

Concentric Circles

The concentric circles consist of 10 circles with cross lines in the center. The circles' radii are $100\ \mu\text{m}$, $200\ \mu\text{m}$, $300\ \mu\text{m}$, $400\ \mu\text{m}$, $500\ \mu\text{m}$, $600\ \mu\text{m}$, $700\ \mu\text{m}$, $800\ \mu\text{m}$, $900\ \mu\text{m}$ and $1000\ \mu\text{m}$. The arc line width is $5\ \mu\text{m}$. The circles are labeled by numbers from 1 to 10.



CONCENTRIC CIRCLE

Ronchi Rulings

These variable frequency gratings consist of thirteen 1 mm square individual Ronchi Rulings. Each individual Ronchi ruling fills with same line width grating. The pitches vary from $30\ \text{lp/mm}$, up to $150\ \text{lp/mm}$ in $10\ \text{lp/mm}$ intervals.



RONCHI RULINGS