

## pvCal 1951 USAF Glass

1951 USAF compatible calibration targets for accurate & precise measurements



### Chrome pattern (dark brown) printed on flat glass, ideal for backlight applications

Soda lime glass 3.0 mm thick

- surface roughness <math><0.025\ \mu\text{m}</math>
- surface flatness: 5-10  $\mu\text{m}$
- transmission (420~700 nm) >85%

Standard coating: low reflective dark brown chrome

- reflectivity <math><25\%</math>@550 nm
- optical density: >3
- no pinhole bigger than 0.001 mm

Polarity:

- Positive: Opaque pattern, clear field
- Negative: Clear pattern, opaque field

Overall accuracy: +/-1  $\mu\text{m}$

Thermal expansion coefficient: <math><100 \times 10^{-7}</math> / °C

Dimension & thickness tolerance: +/-0.1 mm

Beveled edges: +/-1° angle

Elements	Minimum: Group 0, Element 1 Maximum: Group 7, Element 6	Minimum: Group -2, Element 1 Maximum: Group 7, Element 6
Resolution/Frequency (lp/mm)	1.0~228.1	0.25~228.1
Line width	500~2.19	2000~2.19
Dimensions mm	50x50	76x76

Numbers of line pairs / mm & line width (µm)

Element	Group -2	Group -1	Group 0	Group 1	Group 2
1	0.25000/2000	0.5000/100	1.00/500	2.00/250	4.00/125
2	0.28006/1782	0.5621/891	1.122/445	2.245/223	4.490/111
3	0.31500/1587	0.6300/794	1.260/397	2.520/198	5.040/99.2
4	0.35306/1414	0.7071/707	1.414/354	2.828/177	5.657/88.4
5	0.39609/1260	0.7927/630	1.587/315	3.174/157	6.350/78.7
6	0.44504/1122	0.8909/561	1.782/281	3.564/140	7.127/70.2

Element	Group 3	Group 4	Group 5	Group 6	Group 7
1	8.00/62.5	16.00/31.3	32.00/15.6	64.00/7.81	128.0/3.91
2	8.980/55.7	17.96/27.8	35.92/13.9	71.84/6.96	143.7/3.48
3	10.08/49.6	20.16/24.8	40.32/12.4	80.63/6.20	161.3/3.10
4	11.31/44.2	22.63/22.1	45.25/11.0	90.51/5.51	181.0/2.76
5	12.70/39.4	25.40/19.7	50.80/9.84	101.6/4.92	203.2/2.46
6	14.25/35.1	28.51/17.5	57.02/8.77	114.0/4.38	228.1/2.19