

FLATNESS CONVERSION TABLE



CONVERSION TABLE *Millimeters or inches is wavelength dependent. Assumes reference $\lambda = 588\text{nm}$

Number of Bands	Microinches (Millionths of an inch)	Inches	Millimeters
0.1	1.2	0.0000012	0.000029
0.2	2.3	0.0000023	0.000059
0.3	3.5	0.0000035	0.000088
0.4	4.6	0.0000046	0.000118
0.5	5.8	0.0000058	0.000147
0.6	6.9	0.0000069	0.000176
0.7	8.1	0.0000081	0.000206
0.8	9.3	0.0000093	0.000235
0.9	10.4	0.0000104	0.000264
1.0	11.6	0.0000116	0.000294
2.0	23.1	0.0000231	0.000588
3.0	34.7	0.0000347	0.000881
4.0	46.3	0.0000463	0.001175
5.0	57.8	0.0000578	0.001469
6.0	69.4	0.0000694	0.001763
7.0	81.0	0.0000810	0.002056
8.0	92.5	0.0000925	0.002350
9.0	104.1	0.0001041	0.002644
10.0	115.7	0.0001157	0.002938
11.0	127.2	0.0001272	0.003232
12.0	138.8	0.0001388	0.003525
13.0	150.4	0.0001504	0.003819
14.0	161.9	0.0001619	0.004113
15.0	173.5	0.0001735	0.004407
16.0	185.1	0.0001851	0.004700
17.0	196.6	0.0001966	0.004994
18.0	208.2	0.0002082	0.005288
19.0	219.8	0.0002198	0.005582
20.0	231.3	0.0002313	0.005876

Concave surface: finger pressure at edges



Concave surface: finger pressure at center



One microinch = one millionth of an inch = .000001 in.

The term "microinch" is a convenient way of saying "one millionth of an inch." A popular term used with surface finish measurement, microinch specifies an average value for surface finish. Here, microinch and millionth of an inch are used interchangeably.

For many purposes, it is sufficient to take 1 band-10 microinches or 0.0003mm. To make a true test, both parts being tested, the work and optical flat, must be allowed to acclimate to the surrounding temperatures at the time of the test. Testing two flats at different temperatures will result in an untrue reading.