Errata to *Field Guide to Optical Fabrication* (FG20) First Printing

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Minimum Thickness table:

$$t_f^{ss} = 0.55\Phi\sqrt{P \bullet SF/\sigma_f}$$

$$t_f = 0.433\Phi\sqrt{P \bullet SF/\sigma_f}$$

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$$s = \frac{C_{bfs} r^2}{1 + \sqrt{1 - C_{bfs}^2 r^2}} + \frac{u^2\left(1 - u^2\right)}{\sqrt{1 - C_{bfs}^2 r^2}} \sum_{m=0}^{M} a_m Q_m\left(u^2\right)$$

where $u = \dfrac{r}{r_{\max}}$

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According to Karow, $N \approx 6R^2\left(1-\cos\alpha\right)/\phi^2{}_{eff}$.

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When using a **spherometer** with ball feet:

$$s = \left(\frac{y^2}{(R-B)}\right) \Bigg/ \left[1 + \sqrt{\left(1 - \frac{y^2}{(R-B)^2}\right)}\right]$$

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Following are the **scale factors** between various errors and their resulting OPDs *after a round-trip path, as in a Fizeau.*

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Sag reported on ball-circle spherometer:

$$s = \left(\frac{y^2}{(R-B)}\right) \Bigg/ \left[1 + \sqrt{\left(1 - \frac{y^2}{(R-B)^2}\right)}\right]$$

Approximate spherical block capacity, edge angle α:

$$N \approx 6R^2\left(1-\cos\alpha\right)/\phi^2{}_{eff}$$

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Qbfs equation:

$$s = \frac{C_{bfs} r^2}{1 + \sqrt{1 - C_{bfs}^2 r^2}} + \frac{u^2 \left(1 - u^2\right)}{\sqrt{1 - C_{bfs}^2 r^2}} \sum_{m=0}^{M} a_m Q_m \left(u^2\right)$$

$$\text{where } u = \frac{r}{r_{\max}}$$

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Bend under uniform pressure for plane parallel circular plates, simply supported and clamped:

$$s_{ss} = \frac{3Py^4(1-\nu)(5+\nu)}{16Et^3} \qquad s_c = \frac{3Py^4(1-\nu^2)}{16Et^3}$$

Bend under self-weight for plane parallel circular plate, simply supported at its edge:

$$s_{ss} = \frac{3\rho y^4(1-\nu)(5+\nu)}{16Et^2}$$

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This entire entry:

Reflected wavefront per pass, oblique incidence, embedded in index n_1:

$$OPD = 4n_1 h \cos(\alpha)$$

should be corrected to:

Single-pass reflected wavefront, oblique incidence, embedded in index n_1:

$$OPD = 2n_1 h \cos(\alpha)$$

Single-pass transmitted wavefront, oblique incidence, in air:

$$OPD = h\left[\sqrt{\left(n^2 - \sin^2\alpha\right)} - \cos\alpha\right]$$