```
In[∘]:= δ = (4 μl κl (Tsat - Tw) x / (hfg (1 + 0.68 Ja) g Sin[θ] ρl (ρl - ρv)))^(1/4);
        m = g Sin[θ] ρl (ρl - ρv) δ^3 / (3 μl);

In[∘]:= N[(m /. θ → 90 Degree) / (m /. θ → 45 Degree)]
Out[∘]=
        1.09051

In[∘]:= problem = {mRate → 0.063, μl → ThermodynamicData["Water",
             "Viscosity", {"Temperature" → Quantity[90, "DegreesCelsius"]}][[1]]};
        Reδ = 4 mRate / μl /. problem
Out[∘]=
        802.1
```

$$\delta = \left(\frac{4\,\mu_l\,\kappa_l\,(T_{sat}-T_w)\,x}{h_{fg}\,(1+0.68\,Ja)\,g\,\mathrm{Sin}[\theta]\,\rho_l\,(\rho_l-\rho_v)}\right)^{1/4};$$

$$m = \frac{g\,\mathrm{Sin}[\theta]\,\rho_l\,(\rho_l-\rho_v)\,\delta^3}{3\,\mu_l};$$

$$Re_\delta = \frac{4\,mRate}{\mu_l}\ /.\ problem$$