$$Nu=f(Gr \cdot Pr)=C(Gr \cdot Pr)^n \qquad (1)$$

$$Nu=\frac{hl}{\lambda} \qquad (2)$$

$$Gr=\frac{g\alpha(t_2 - t_3)l^3}{v^2} \qquad (3)$$

$$t_m=\frac{t_2 + t_3}{2} \qquad (4)$$

$$\alpha=\frac{1}{273 + t_m} \qquad (5)$$

In formula (1)-(5), Nu is the Nusselt number; Gr is the Grashof number number; Pr is the Planck number; h is the convective heat transfer surface coefficient ($W/(m^2 \cdot K)$); λ is the thermal conductivity of heated air ($W/(m \cdot K)$); l is the size (m); α is the volume expansion coefficient (1/K); g is gravitational acceleration; t_2-t_3 is the temperature difference between sample and heated air (°C); v is the moving viscosity (m^2/s); t_2 is the film temperature (°C); t_3 is the air temperature (°C); t_m for qualitative temperature (°C).

So according to formula (1)-(5), the convective heat transfer surface coefficient is:

$$h=0.15\lambda\left[\frac{g(t_2 - t_3)}{v^2(273 + t_m)}\right]^{1/3}Pr^{1/3}$$