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NOMENCLATURE

D	wire diameter, m
h	external heat transfer coefficient, $W.m^{-2}.K^{-1}$
L	wire length, m
n	number of wire lengths tested
P	wire perimeter, m
R	electric resistance, Ω
R_0	electric resistance at initial temperature, Ω
S	wire section area, m^2
$s\bar{T}$	standard deviation of \bar{T} , $^{\circ}C$
T	wire temperature, $^{\circ}C$
T_a	ambient temperature, $^{\circ}C$
\bar{T}	wire mean temperature, $^{\circ}C$
x	distance from the middle of the wire, m

Greek symbols

α	temperature coefficient of the wire electrical resistance, K^{-1}
ϕ_0	heat flux per volume unit, $W.m^{-3}$
λ	thermal conductivity, $W.m^{-1}.K^{-1}$
ρ	density, $kg.m^{-3}$
ρ_0	wire electrical resistivity, $\Omega.m$
θ	wire temperature rise, K
$\bar{\theta}$	wire mean temperature rise, K
ω	alternative current pulsation, $rd.s^{-1}$