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## NOMENCLATURE

A	area, [m <sup>2</sup> ]
B	base length, [m]
C <sub>1</sub>	permeability loss coefficient, [1/m <sup>2</sup> ]
C <sub>2</sub>	inertial loss coefficient, [1/m]
C <sub>p</sub>	specific heat, [J/kgK]
d	hole diameter, [mm]
D	diameter, [mm]
D <sub>p</sub>	mean particle diameter, [m]
F	calibration factor
h	convective heat transfer coefficient, [W/m <sup>2</sup> K]
H	height, [m]
H <sub>i</sub>	lower heating value, [J/kg]
K	thermal conductivity, [W/mK]
L	width, [m]
L <sub>m</sub>	average length of the raw material, [mm]
m	mass, [kg]
$\dot{m}$	massflow rate, [kg/s]
Nu	Nusselt number
Pr	Prandtl number
q	heat, [W]
r	radius [mm]
Re	Reynolds number
R <sub>g</sub>	glass ratio

S	thickness, [mm]
t	time, [s]
T	temperature, [K]
U	transmittance, [W/m <sup>2</sup> K]
v	velocity, [m/s]
V	volume, [m <sup>3</sup> ]
x	local coordinate, [m]
Y <sup>+</sup>	non dimensional boundary layer distance from wall

## Greek symbols

$\alpha$	thermal diffusivity, [mm <sup>2</sup> /s]
$\varepsilon$	porosity
$\eta$	efficiency
$\mu$	dynamic viscosity, [Pa s]
$\rho$	density, [kg/m <sup>3</sup> ]
$\tau_{id}$	characteristic time, [s]

## Subscript

0	initial condition
a	air
amb	ambient
e	external
eq	equivalent
f	exhaust gas
g	glass
i	internal
T	total