Flue Gas and Air Properties

11/10/2026

Project: gas-properties

Input Parameters

Gas temperature	150.00 °C
Absolute pressure	1.0132 bar
Oxygen (O2)	4.0000 %
Nitrogen (N2)	74.800 %
Carbon dioxide (CO2)	13.000 %
Water vapour (H2O)	8.0000 %
Sulphur dioxide (SO2)	0.20000 %
Carbon monoxide (CO)	0 %
Hydrogen (H2)	0 %
Argon (Ar)	0 %

Calculated Results

Molar mass	29.525 kg/kmol
Normal density (0 °C, 101.325 kPa)	1.3173 kg/m³
Density at T and p	0.85031 kg/m³
Specific heat capacity at T	1.0655 kJ/(kg·K)
Mean specific heat 25 °C → T	1.0500 kJ/(kg·K)
Enthalpy above 25 °C	131.25 kJ/kg
Dynamic viscosity	2.2064e-05 Pa·s
Kinematic viscosity	2.5949e-05 m²/s
Thermal conductivity	0.031527 W/(m·K)
Prandtl number	0.74569