significantly improves the formation of velocity and thermal boundary layers at the rough surfaces. Appropriate choices of boundary conditions ensure stability and convergence. For fugitive dust dispersion study in open-pit mines, the use of steady state velocity profile provides several advantages if the result from a steady state is subsequently used as an input condition for a transient simulation. Various turbulent flow methods and turbulence models generate different pattern for in-pit recirculation; although the maximum magnitude of velocity remains almost the same. For resolving the thermal boundary layers, the LES method shows better resolution than other methods.

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