

The invention concerns a low-NO_x end-fired furnace for melting glass provided with an overhead burner comprising a conduit for supplying oxidant comprising 15 to 30 % oxygen in the upstream wall of same, a conduit for receiving combustion fumes in the upstream wall of same, and a sonic injection system comprising at least one injector for injecting a jet of a gas at a speed at least equal to 80 % of the speed of sound, referred to as a sonic injector, opening in the upstream wall or opening in the conduit for receiving combustion fumes, said sonic injector injecting the gas of same, counter-current to the flow of combustion fumes travelling towards the conduit for receiving combustion fumes, and a method for preparing molten glass comprising the melting of glass in said furnace.