

AUXILIARY REQUEST 1

1. A single-chamber furnace for fuming at least one evaporable metal or metal compound from a metallurgical charge comprising a bath furnace susceptible to contain a molten charge up to a determined level, whereby the furnace is equipped with at least one non-transferred plasma torch for the generation of plasma-quality first hot gases and with at least one first submerged injector for injecting the first hot gases from the plasma torch below the determined level, whereby the furnace is further comprising an afterburning zone for oxidising the at least one evaporable metal or metal compound in the fuming gas, downstream of the furnace top, to form an oxidised form of the at least one evaporable metal or metal compound, a cooling zone for cooling the gas that is formed in the afterburning zone, and a recovery zone, downstream of the cooling zone, for recovering the oxidized form of the at least one evaporable metal or metal compound from the gas formed in the afterburning zone and cooled in the cooling zone, **characterized in that** the furnace is further equipped with at least one second submerged injector different from the first submerged injector for injecting extra gas into the furnace below the determined level, and wherein the temperature of the extra gas for entering the at least one second injector is at most equal to the temperature of the bath of the furnace.

2. The furnace according to claim 1 wherein the at least one second injector is aiming its extra gas towards a second volume as part of the internal space of the furnace below the predetermined level that is different from the first volume into which the at least one first injector is aiming the plasma quality first hot gases.

3. The furnace according to any one of the preceding claims comprising at least two and preferably at least three first injectors distributed along a horizontal perimeter of the furnace side wall, whereby the at least one second submerged injector is aiming its extra gas towards a volume as part of the internal space of the furnace below the predetermined level about close to the furnace vertical axis and/or the at least one second submerged injector being located along the furnace side wall at