CLAIMS

[Claim 1] A filling method for filling a syringe with paste, the syringe including a body, a nozzle, and a cap to be filled with the paste, the body having a cylindrical shape, the nozzle being provided to a tip of the body and having a cylindrical shape thinner than the body, and the cap being externally fitted over the tip of the nozzle and having a bottomed cylindrical shape, the syringe being configured to discharge the paste from an opening of the tip of the nozzle, the filling method comprising:

an insertion process of inserting a filling nozzle into a cylinder interior of the nozzle via a cylinder interior of the body; and

a filling process of discharging the paste from the filling nozzle and filling an interior space of the body and the nozzle with the paste, wherein

in the insertion process, the filling nozzle is inserted into the cylinder interior of the nozzle until a tip of the filling nozzle protrudes from the opening of the tip of the nozzle,

the filling process is performed after the insertion process is completed, and

in the filling process, discharging the paste from the filling nozzle is started when the tip of the filling nozzle is protruding from the opening of the tip of the nozzle.

[Claim 2] The filling method according to claim 1, wherein

the filling process includes,

a first filling process in which the paste is discharged from the filling nozzle at a first discharge rate while the filling nozzle is pulled out of the nozzle at a first

withdrawal rate, and

a second filling process in which the paste is discharged from the filling nozzle at a second discharge rate while the filling nozzle is pulled out of the nozzle or the body at a second withdrawal rate, wherein

the second withdrawal rate is slower than the first withdrawal rate, and

the second discharge rate is the same as or faster than the first discharge rate.

[Claim 3] The filling method according to claim 2, wherein the second withdrawal rate is increased as the filling nozzle is withdrawn from the nozzle.

[Claim 4] The filling method according to any one of claims 1 to 3, wherein in the insertion process, the tip of the filling nozzle is inserted along an inner wall of the nozzle.

[Claim 5] A filling device configured to fill a syringe with paste, the syringe including a body, a nozzle, and a cap to be filled with the paste, the body having a cylindrical shape, the nozzle being provided to a tip of the body and having a cylindrical shape thinner than the body, and the cap being externally fitted over the tip of the nozzle and having a bottomed cylindrical shape, the syringe being configured to discharge the paste from an opening of the tip of the nozzle, the filling device to be coupled with the syringe, comprising:

a filling nozzle configured to discharge the paste and fill an interior space of the body and the nozzle of the syringe with the paste; and

a controller configured to control the discharge of the paste by the filling nozzle,

wherein

the controller is configured to cause insertion of the filling nozzle into a cylinder interior of the nozzle via a cylinder interior of the body of the syringe until a tip of the filling nozzle protrudes from the opening of the tip of the nozzle of the syringe, and to cause the discharge of the paste from the filling nozzle to start when the tip of the filling nozzle is protruding from the opening of the tip of the nozzle of the syringe, in order to fill the interior space of the body and the nozzle of the syringe with the paste.