Abstract: The thesis focus on modelling of float glass making process using viscose film type approximation. Navier-Stokes equations are averaged over one spatial variable. Then the domain with an a priory unknown shape, where the shape is a part of the solution, is transformed to a fixed computational domain. The problem is solved by finite element method using FEniCS software. In the end is discussed an influence of several parameters such as wheels, which regulates thickness of the glass and enforce an inner condition, boundary conditions or spreading coefficient on the numerical result.