液化石油氣槽車安全連結器之設計

LPG (Liquefied Petroleum Gas) is a fuel for motor vehicles in Taiwan. The safety work for LPG gas station is more and more important than before. The safety coupling is one of the most important device in the LPG piping system. The safety coupling is usually installed in a pipe between tank lorry and gas station. If the pipe is stretched too much to its tensile stress limit, the safety coupling will be disconnected and closed the outlet automatically. It is easy to burn and explode due to the high steam pressure and corrosion characteristic of LPG. So the safety coupling is a very important device to protect the tauk.lorry and gas sation. The objective of this study is to design and fabricate the safety coupling with one inch and two inches in diameter. In the process of the design, the CAD(Computer-Aided Design) software package(Pro/Engineer) is applied to design the drafts on PC. At the same time, the CAE (Computer- Aided Engineering) software package (ANSYS) is also used for its well performance in finite element analysis(FEA). After the design and analysis, the prototype of safety coupling is fabricated and tested.