ABSTRACT

Warehouse at Personal Wash PT. Unilever Indonesia Tbk, is the place to store raw material and packaging material that consist of paper roll and flammable liquid such as perfume. Those material are placed in racks which have 7.7 meter high, hence based on SNI 03-3989-2000 it can be classificated as serious hazard. In this moment, there are water sprinkler which is designed in +11 meter high. It cause if there are fire in below racks, the head water sprinkler are not open directly until the temperature around the head sprinkler reach the certain temperature point to release the water. That condition result there are many materials which are burned and cause a lot of financial losses.

Based on Depnakertrans RI, the material in the warehouse can be classified as fire class A and fire class B. The most appropriate extinguished fire media to both of classes is foam. Hence, to solve that problem, there must be made the automatic extinguished fire that use foam-water and designed at ceiling and racks with low-expansion. This designed is refers to NFPA 11, NFPA 13 dan NFPA 16. For the flammable liquid protection, foam concentrate that will be used is 3 % and the extinguished fire media that will be used is sintetic foam because sintetic foam can extinguish the fire fast and it is not cause corrosion.

The foam-watersprinkler equipment that will be need are bladder tank, proportioner, deluge valve dan gate valve. To extinguish the fire more fast, foam-watersprinkler will be integrated with detector and alarm. From the calculation made, volume of water for foam concentrate mix in bladder tank is 46516.67 L and volume of water for foam solution is 734400 L. The pump power needed is 2518.09 Hp.

Keywords: foam-watersprinkler, integrated, power pump