
B.2.4.

Study on Low-Smoke low-halogen and Flame Retardant PVC Sheath Composite

Shen Xiaogang Cui Xijing Li Xiufeng

(ShanDong LuNeng Cable Company, China)

Usually traditional flame retardant cable adopt PVC to be sheath material, but PVC can discharge a great deal of poisonous halogen hydride and smoke, which is greatly harmful to environment and human's body. Therefore the discharge of HCL and smoke must be decreased amid the combustion of PVC. In this article, $Al(OH)_3$ and different kinds of plasticizer are studied to figure out that how they influence smoke density, mechanical and physical properties, output of HCL and heat stability of PVC compound of sheath. Experiments show that adding $Al(OH)_3$ and plasticizer properly can decrease the discharge of HCL and smoke. We get PVC sheath composite with good general performance whose smoke density is 233 and content of HCL is 8.24. Considering the abundant and low-cost PVC resource, this product has considerably high economic benefit and society benefit.

Key words: Low-Smoke low-halogen PVC sheath composite