

ABSTRACT

FULLY DRY NON-METAL FLAME-RETARDANT AND FIRE-RESISTANT OPTICAL CABLE

A fully dry non-metal flame-retardant and fire-resistant optical cable, which relates to the field of optical communication cables, and which comprises an optical unit (1), an armor layer (2) and a flame-retardant layer (3). An optical fiber channel (20) is formed in the armor layer (2), and the armor layer (2) is made of a ceramic glass fiber material. The optical unit (1) is provided in the optical fiber channel (20). The flame-retardant layer (3) covers the outside of the armor layer (2). Since the optical fiber channel (20) is formed by the armor layer (2), the armor layer (2) is a fire-resistant layer closest to the optical unit (1). Moreover, since the armor layer (2) is made of a ceramic glass fiber material, when the optical cable catches on fire and burns, a ceramic coating in glass yarn and glass fibers are cured together to form a strong and dense armor layer (2) reinforced by a layer of the glass fiber, which is able to isolate all burning residue on the outer layer of the armor layer (2); and during the cooling process of the optical cable, even if the thermal expansion and contraction of the outer layer material of the armor layer (2) generate stress release, the hard armor layer (2) will not shrink under the squeezing of the outer layer material. Therefore, the optical fiber of the optical unit (1) will not be squeezed to then result in fiber breakage.

Fig. 1