

ABSTRACT

Disclosed in the present application is a MCA flame-retardant black polyamide composite material capable of high-definition laser marking, which comprises the following components in parts by weight: 50-74 parts of a nylon resin, 20-40 parts of glass fibers, 5-13 parts of a MCA flame retardant, 0.1-0.5 part of carbon black, 0.2-0.6 part of a lubricant, and 0-0.5 part of an antioxidant, the nylon resin being one or two of PA6 and PA66 of which the relative viscosity is 2.0-2.4, and the average particle size of MCA being 5-10 μm . The present application applies the low-viscosity nylon resin, thus ensuring excellent processing flowability; by means of selecting the components in the formula, the problem of non-uniform dispersion during combination use of MCA and carbon black is solved, thus reducing the adverse effect on carbon black dispersity caused by the lubricating effect of MCA, and improving the flame retardance and high CTI performance of the material. Therefore, the present application achieves better high-definition black-on-white laser marking performance while keeping good flame retardance and high CTI. In addition, the present application does not need adding an expensive laser marking agent, graphene and the like for achieving the high-definition black-on-white laser marking and therefore has a low cost.