Precautions for using optical fibers

The English name for a fiber laser is “Fiber Laser,” referring to a laser that uses rare-earth-doped glass fiber as its gain medium. Among them, ytterbium-doped optical fiber is one of the most core components of fibre laser systems, and its daily use requires attention and standardisation.:

1.When cutting optical fiber cables, please use professional tools. Do not break them by hand to prevent glass fragments from entering the eyes.

2.When cutting in daily life, please handle the broken fibers in a centralized manner and prohibit them from being discarded careleely to prevent them from pricking people.

3.When stripping the optical fiber coating, please use professional stripping pliers for stripping. In high-power situations, please use a professional stripping machine for coating stripping to ensure that the coating boundary line is neat.

4.Before cutting the optical fiber, please clean it thoroughly. In particular, when working with high power, an ultrasonic oscillator can be used to further clean the end face after the cut.

5.Before optical fiber fusion splicing, please ensure that the cutting end face is within 1 ° to reduce fusion losses;

6.When designing a laser system, please use optical fiber length appropriately to prevent absorption or gain saturation.

7.During the laser emission process, always pay attention to the

temperature of the optical fiber to prevent the risk of optical fiber burning due to too high temperature;

8.Before turning on the laser, please wear protective goggles in a timely manner to prevent uncontrollable harm to the human eyes caused by returning light;

9.During the laser testing process, please always pay attention to the various indicators (nonlinearity) of the laser to prevent abnormal indicators from causing optical fiber burning;

10.When switching the light of Mopa structured laser machine, please pay attention to controlling the power switch sequence to prevent the risk of fiber burning;

11.During optical fiber storage process, please pay attention to the temperature and humidity of the storage environment (temperature 10 °C-35 °C, humidity 35%-75%) to slow down the aging of the optical fiber coating.