What is optical fiber core fusion

Overview

It is a technique that uses controlled heat to permanently fuse two optical fiber ends together. Unlike mechanical splicing, which relies on alignment sleeves and index-matching gel, this thermal approach creates a continuous glass path between fibers. Fusion splicing is the most widely used method of splicing as it provides for the lowest loss and least reflectance, as well as providing the strongest and most reliable joint between two fibers. The goal is to fuse the two fibers together in such a way that light passing through the fibers is not scattered or reflected back by the splice, and so that the splice and the region surrounding it are almost as strong as the. This article explains the principle of fusion splicing, a common method for making permanent low-loss fiber splices by melting and fusing two fiber ends together, typically with an electric arc.

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