

## Fattened Fiber Splices

The ever increasing number of applications for optical fiber in the areas of optical communications and fiber sensors has led to a multitude of different fiber types being used. Modern systems can have a combination of different fiber types in a single installation. This leads to a requirement for low loss jointing of fibers with radically different core diameters, cladding diameters and core refractive index profiles.



### FATTENED SPLICES FOR DIFFERENT DIAMETER FIBERS

Feasa has developed a fiber fattening process which allows the splice loss between any pair of different diameter single-mode fibers to be radically reduced. The fibers are fused in a conventional fusion splicer to achieve the lowest loss possible. The spliced fibers are then mounted on the fiber-fattening rig which consists, essentially, of a fused tapered coupler fabrication station with the motors reversed. The splice joint is located at the suitable longitudinal position in the H2 flame and the translation stages are driven together until the transmission through the joint is at an acceptable level.

### FIBER TYPES

Feasa's fattened splices have been applied between standard SMF28 type fiber and 80µm diameter high NA fiber with losses less than 0.1dB.

### APPLICATIONS

- Fiber Sensors
- Fiber Gyroscopes

### FEATURES

- Can be used for dissimilar diameter fibers
- Environmentally stable
- Small Package Size
- Low Insertion Loss

### ORDERING INFORMATION

FFS - AA - BB - CC

#### Fiber Type (AA)

- 1 = SMF28
- 2 = High NA 80µm
- C = Custom

#### Operating Wavelength (BB)

- 82 = 820
- 13 = 1300
- 15 = 1550
- ZZ = Custom

#### Package (CC)

- S = Standard 45mm
- M = Minature 35mm
- U = Ultra Minature 25mm