

## **AS...IR-FIBERS**

### **FEATURES**

- Higher transmission than PCS-Fibers between 1500 nm and 2600 nm
- Broad useful spectral transmission range
- Specialty coatings available for high temperatures, high vacuum and harsh chemicals environments
- Biocompatible materials
- Sterilizable by ETO, steam, e-beam, gamma radiation
- Radiation resistant
- Laser damage resistant



### **FIBER DESIGN**

- Fiber design: Pure fused silica core (low OH)
  - Fluorine doped fused silica cladding
  - Acrylate coating (-40°C to 85°C)
  - Silicone resin coating (-40°C to 180°C)
  - Polyimide coating (-190°C to 385°C)
- Jacket:
  - Nylon (-40°C to 100°C)
  - ETFE (-200°C to 150°C)
  - Acrylate (-40°C to 85°C)

### **FIBER PROPERTIES**

- Core/clad ratio: 1.1, 1.2, 1.4
- Numerical aperture:  $0.22 \pm 0.02$
- Operation wavelength range: 350 nm to 2600 nm
- Proof test level (bend method): 70 kpsi
- Bend radius:
  - momentary 100 times the fiber radius
  - long term 600 times the fiber radius
- Laser damage threshold:  $> 5 \text{ J/mm}^2$  (Nd:YAG, 1ms pulse at 1060 nm)  
 $> 1.3 \text{ kW/mm}^2$  (Nd:YAG, cw at 1060 nm)

### **OPTIONS**

- Core/clad ratios 1.15, 1.30,
- Numerical apertures 0.07 to 0.28
- Metal coating (-190°C to 750°C)
- Fiber bundles
- Tapered fibers
- Connectors (SMA, FC/PC, ST, DIN)
- AS-Fiber cables

# **AS...IR-FIBERS**

## **FIBER SPECIFICATIONS**

### NYLON JACKETED FIBERS (-40°C to 85°C)

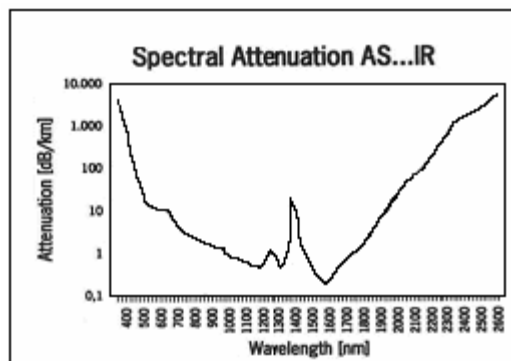
| Product code     | Core<br>[ $\mu\text{m}$ ]<br>$\pm 2 \%$ | Clad [ $\mu\text{m}$ ]<br>$\pm 2 \%$ | Coating<br>[ $\mu\text{m}$ ]<br>$\pm 5 \%$ | Coating<br>Material | Jacket<br>[ $\mu\text{m}$ ]<br>$\pm 5 \%$ |
|------------------|-----------------------------------------|--------------------------------------|--------------------------------------------|---------------------|-------------------------------------------|
| AS 100/140IRAN   | 100                                     | 140                                  | 200                                        | Acrylate            | 500                                       |
| AS 200/220IRAN   | 200                                     | 220                                  | 350                                        | Acrylate            | 500                                       |
| AS 200/280IRAN   | 200                                     | 280                                  | 500                                        | Acrylate            | 700                                       |
| AS 300/330IRAN   | 300                                     | 330                                  | 500                                        | Acrylate            | 700                                       |
| AS 400/440IRAN   | 400                                     | 440                                  | 550                                        | Acrylate            | 700                                       |
| AS 600/660IRAN   | 600                                     | 660                                  | 800                                        | Acrylate            | 1000                                      |
| AS 800/880IRAN   | 800                                     | 880                                  | 1000                                       | Acrylate            | 1200                                      |
| AS 1000/1100IRAN | 1000                                    | 1100                                 | 1250                                       | Acrylate            | 1500                                      |
| AS 1500/1650IRAN | 1500                                    | 1650                                 | 1800                                       | Acrylate            | 2000                                      |

For Silicone coatings replace A with S in product code.

### ETFE JACKETED FIBERS (-40°C to 150°C)

| Product code     | Core [ $\mu\text{m}$ ]<br>$\pm 2 \%$ | Clad [ $\mu\text{m}$ ]<br>$\pm 2 \%$ | Coating<br>[ $\mu\text{m}$ ]<br>$\pm 5 \%$ | Coating<br>Material | Jacket<br>[ $\mu\text{m}$ ]<br>$\pm 5 \%$ |
|------------------|--------------------------------------|--------------------------------------|--------------------------------------------|---------------------|-------------------------------------------|
| AS 100/110IRSE   | 100                                  | 110                                  | 180                                        | Silicone            | 300                                       |
| AS 200/220IRSE   | 200                                  | 220                                  | 350                                        | Silicone            | 500                                       |
| AS 200/280IRSE   | 200                                  | 280                                  | 500                                        | Silicone            | 700                                       |
| AS 300/330IRSE   | 300                                  | 330                                  | 500                                        | Silicone            | 700                                       |
| AS 400/440IRSE   | 400                                  | 440                                  | 550                                        | Silicone            | 700                                       |
| AS 600/660IRSE   | 600                                  | 660                                  | 800                                        | Silicone            | 1000                                      |
| AS 800/880IRSE   | 800                                  | 880                                  | 1000                                       | Silicone            | 1200                                      |
| AS 1000/1100IRSE | 1000                                 | 1100                                 | 1250                                       | Silicone            | 1500                                      |
| AS 1500/1650IRSE | 1500                                 | 1650                                 | 1800                                       | Silicone            | 2000                                      |

For Acrylate coating replace S with A in product code





## **AS...IR-FIBERS**

### POLYIMIDE COATED FIBERS (-190°C to 385°C)

| Product code   | Core [μm]<br>± 2 % | Clad [μm]<br>± 2 % | Coating [μm]<br>± 3 % |
|----------------|--------------------|--------------------|-----------------------|
| AS 100/140IRPI | 100                | 140                | 155                   |
| AS 200/220IRPI | 200                | 220                | 235                   |
| AS 200/280IRPI | 200                | 280                | 295                   |
| AS 300/330IRPI | 300                | 330                | 345                   |
| AS 400/440IRPI | 400                | 440                | 460                   |
| AS 600/660IRPI | 600                | 660                | 680                   |

Other specifications upon request.

## **BUNDLES FIBER SPECIFICATIONS**

| Product code   | Core [μm]<br>± 2 % | Clad [μm]<br>± 2 % | Coating<br>[μm]<br>± 3 % | Coating<br>Material | Wavelength<br>Range [nm] |
|----------------|--------------------|--------------------|--------------------------|---------------------|--------------------------|
| AS 50/70IRW    | 50                 | 70                 |                          | Wet coating         | 350 to<br>2600           |
| AS 50/70IRPI   | 50                 | 70                 | 78                       | Polyimide           | 350 to<br>2600           |
| AS 58/70IRW    | 58                 | 70                 |                          | Wet coating         | 350 to<br>1500           |
| AS 58/70IRPI   | 58                 | 70                 | 78                       | Polyimide           | 350 to<br>1500           |
| AS 100/110IRW  | 100                | 110                |                          | Wet coating         | 350 to<br>1500           |
| AS 100/110IRPI | 100                | 110                | 120                      | Polyimide           | 350 to<br>1500           |
| AS 100/120IRW  | 100                | 120                |                          | Wet coating         | 350 to<br>2600           |
| AS 100/120IRPI | 100                | 120                | 130                      | Polyimide           | 350 to<br>2600           |
| AS 125/150IRPI | 125                | 150                | 160                      | Polyimide           | 350 to<br>2600           |
| AS 150/165IRPI | 150                | 165                | 180                      | Polyimide           | 350 to<br>1800           |
| AS 200/220IRPI | 200                | 220                | 235                      | Polyimide           | 350 to<br>2600           |

Other specifications upon request.