

**Technical Data****REFERENCE SUMMARY**

**Product Category:**  
Buffer Removal

**BUFFER/JACKET: ACRYLATE**

**Max. Operating Temp:** 85°C

**Removal Method:** Mechanical or Chemical: Methylene chloride, xylene or nmp(n-methol -2-pyrrolidone)

**Mechanical**

- Use a NoNik®, Augat or similar fiber stripper with right size cutter blades.

**Chemical**

- Dip in solvent for a few minutes. Jackets will absorb the solvent and swell-up. Grab fiber between thumb and index finger (with some tissue in between) and rub swollen portion off.

**BUFFER/JACKET: ALUMINUM**

**Max. Operating Temp:** 400°C

**Removal Method:** Sodium Hydroxide

**Chemical etch**

- Fill 100 ml beaker with sodium hydroxide pellets to 1/4 height (25ml). Fill up to 100ml with water. Stir until pellets are dissolved. Mask areas not to be etched. Fumes will attack aluminum. Insert fiber for 1-2 minutes. When reaction stops, remove fiber. Aluminum has been removed. Dip into water to clean. Note that fresh solution is hot and therefore works fast. Old solution must be warmed up to 50-60°C to be effective. Agitation speeds up process. Note that if left in solution longer, Fiber will also be attacked.

**BUFFER/JACKET: GOLD**

**Max. Operating Temp:** 700°C

**Removal Method:** Aqua-Regia etch or Iodide etch

**Aqua-Regia**

- 3 parts HCL (hydrochloric acid), Technical grade or Reagent grade ~38% w/w Fisher or equivalent/1 part HNO<sub>3</sub> (nitric acid) Technical grade or Reagent grade 70% Fisher or equivalent. Mask areas not to be affected. Dip into acid. Agitate to speed up removal of all gold. Rinse in H<sub>2</sub>O. Dip in acetone and let dry or blow dry.

**Potassium Iodide + Iodine + Water**

- 8gm Potassium Iodide/3gm Iodine/8ml water. Dissolve KI and I<sub>2</sub> in H<sub>2</sub>O. Dip into solution and agitate until all gold is removed. Rinse in methanol, then acetone. Let dry or blow dry.

**BUFFER/JACKET: NYLON**

**Max. Operating Temp:** 100°C

**Removal Method:** Propylene Glycol

- Heat propylene glycol to 180°C. Dip into solution approximately 20 sec.
- Wipe nylon off with a tissue, then rinse with water.

**BUFFER/JACKET: TEFLON® (PFA)**

**Max. Operating Temp:** 230°C

**Removal Method:** Mechanically

**Mechanical**

- Use NoNik®, Augat fiber strippers.



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**Product Category:**  
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#### BUFFER/JACKET: POLYIMIDE

**Max. Operating Temp:** 385°C

**Removal Method:** Burn it off or hot non-fuming sulfuric acid

**Burn it off with a lighter, match or electrical arc.**

**Hot non-fuming sulfuric acid**

- Hot sulfuric acid (T=150-180°C). Dip a few minutes or until all Polyimide is dissolved. Rinse in clean water after excess acid is drained off. Then, rinse in acetone, then methanol and let dry.

#### BUFFER/JACKET: TEFZEL®

**Max. Operating Temp:** 150°C

**Removal Method:** Mechanically

**Mechanical**

- Use NoNik®, Augat fiber strippers.

#### BUFFER/JACKET: SILICONE

**Max. Operating Temp:** 200°C

**Removal Method:** Sulfuric Acid, Tech. Grade, Non-fuming (93.1%) w/v 66° Baume, Fisher or equivalent or Mechanical

**Sulfuric Acid**

- Dip a few minutes or until all silicone is dissolved. Warm acid (50-60°C) will speed up process. Rinse in clean water after excess acid is drained off. Then, rinse in acetone and let dry.

**Mechanical**

- Mechanical removal is done by rubbing off with a soft special cotton thread. Follow with acetone and methanol rinse.
- Machines are available commercially.

#### BUFFER/JACKET: FUSED SILICA (SiO<sub>2</sub>)

**Max. Operating Temp:** 1000°C

**Removal Method:** \*Etch: HF (Hydrofluoric Acid)

- Dip bare fiber into acid. Agitation will help uniform etching. 1-5% solution in water of 49% w/w reagent or technical grade Hydrofluoric acid. Fisher or equivalent. Approximate etch rates are 2 to 10x10<sup>5</sup> milligram/m<sup>2</sup>/hour at 25°C (77° Fahrenheit). Etch rate constant at 32°C (89.6° Fahrenheit) is K=5x10<sup>-8</sup> grams of SiO<sub>2</sub> per sec. per cm<sup>2</sup> per Mole of HF. Rinse in DI water, acetone, and methanol. Blow dry.

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#### Fiberguide Industries Customization Program

Fiberguide Industries is a full service custom fiber and value-added assembly provider. If you have unique requirements, please contact us to discuss tailoring a product or design to optimize optical performance for your specific application.

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