

## Re: How to strip a 9 micrometer singlemode fiber?

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- *From:* Bob Pownall <[reponall@xxxxxxxxxxxxx](mailto:reponall@xxxxxxxxxxxxx)>
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Dendrites wrote:

<Summary: The OP is trying to couple a laser beam into a small waveguide. Using a microscope objective hasn't worked, so the OP is now trying to couple the light using a fiber.>

What you want to do can be done. I'm currently coupling light from a cleaved, single-mode fiber with 4um core diameter into optical dielectric slab waveguides as small as 0.5um wide and 0.3um high. Coupling efficiency is lousy, though – 1% or less. That's enough for my preliminary work, but I'm now trying to get better results with a lensed fiber I purchased from Oz Optics. I tried some tapered fibers from OE-Land, but they kept breaking on me, often while I was trying to remove them from their "protective" packaging.

Note that I'm stripping the jacket from the fiber, but not the cladding.

I'm using a Thorlabs piezostage, with a Thorlabs fiber clamp, to do the fine positioning of the fiber relative to the waveguide.

Let me know what you come up with – maybe we can learn from each other.

Bob Pownall

P.S. Of course, you'll want to be careful with eye safety if you're working with laser light in fibers and observing things through a microscope. You may want to attach some sort of CCD camera to the microscope and observe the results through a video feed – much safer.

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