

To cleave a 250 micron primary coated fibre

1. Before commencing this procedure, ensure you observe all safety precautions. That is you are wearing suitable protective eyewear and your hands are protected by disposable plastic gloves. The disposable gloves also prevent the fibre from becoming contaminated with skin oils from your hands.
2. Strip the outer coloured or primary coating from the fibre to a length no less than 45mm using a suitable fibre stripping tool.

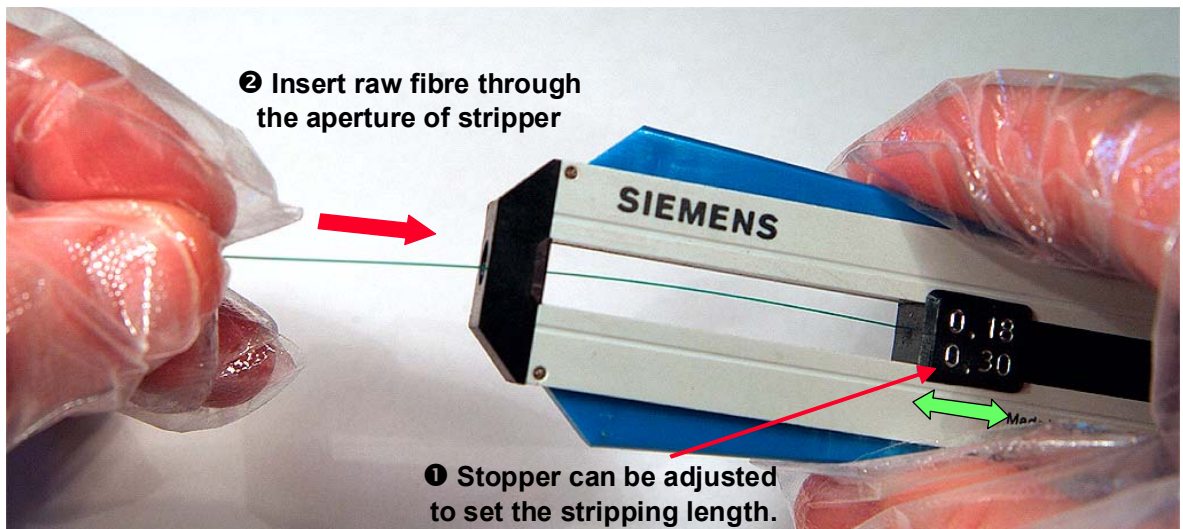


Figure 4.13 – Inserting fibre into Siemens stripping tool

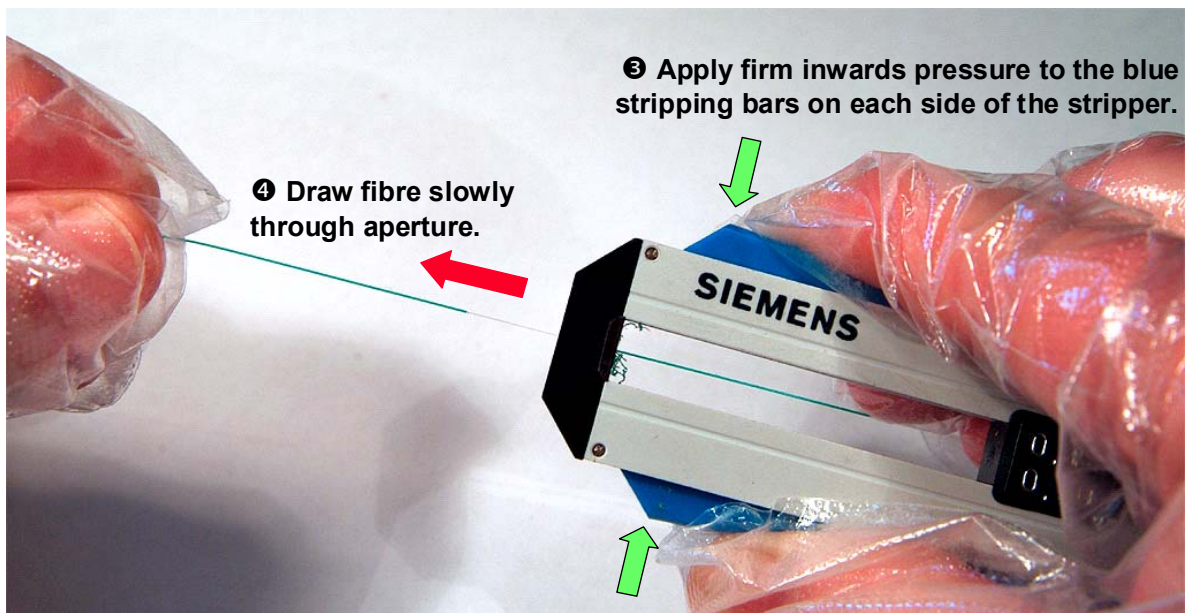


Figure 4.14 – Stripping action using Siemens stripping tool

3. Raise the anvil to its upper rest position. This can be done by ensuring the locking switch on the rear of the cleaver is in the “UNLOCKED” position. See figure 4.11
4. Raise the magnetic fibre clamp and ensure the upper fibre roller is raised to expose the opening to the fibre scraps box.

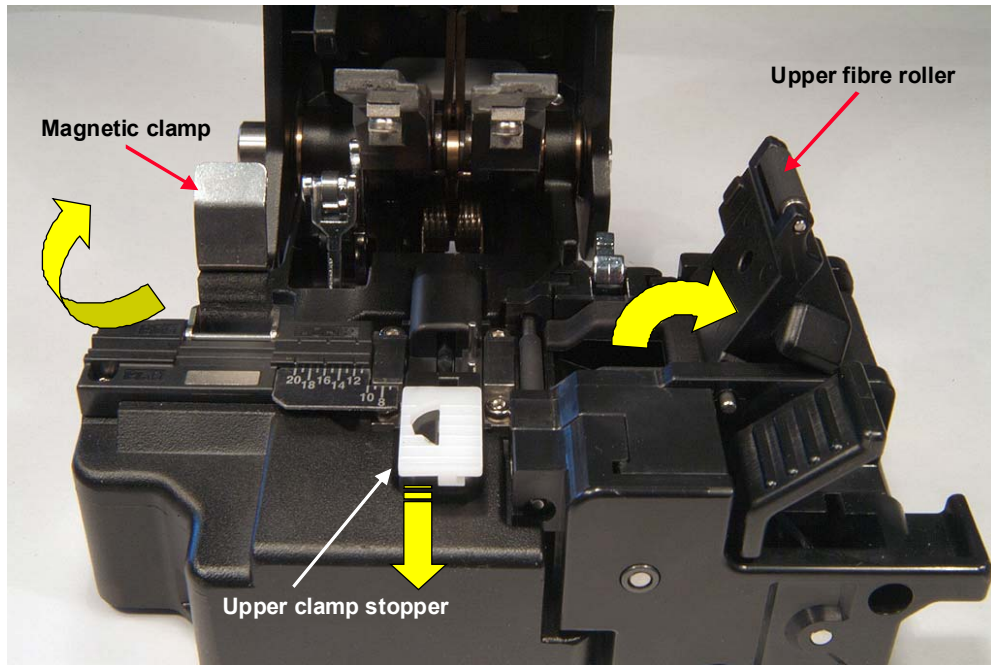


Figure 4.15 – Preparing the CT20-12 cleaver to accept the fibre

5. Before positioning the fibre in the guide for cleaving, ensure both the guide and the fibre are clean. Fibres can be cleaned using lint free tissues impregnated with isopropyl alcohol. Medi-swabs are ideal for this purpose. Likewise the fibre guide can be cleaned with cotton tipped applicators dipped in isopropyl alcohol.

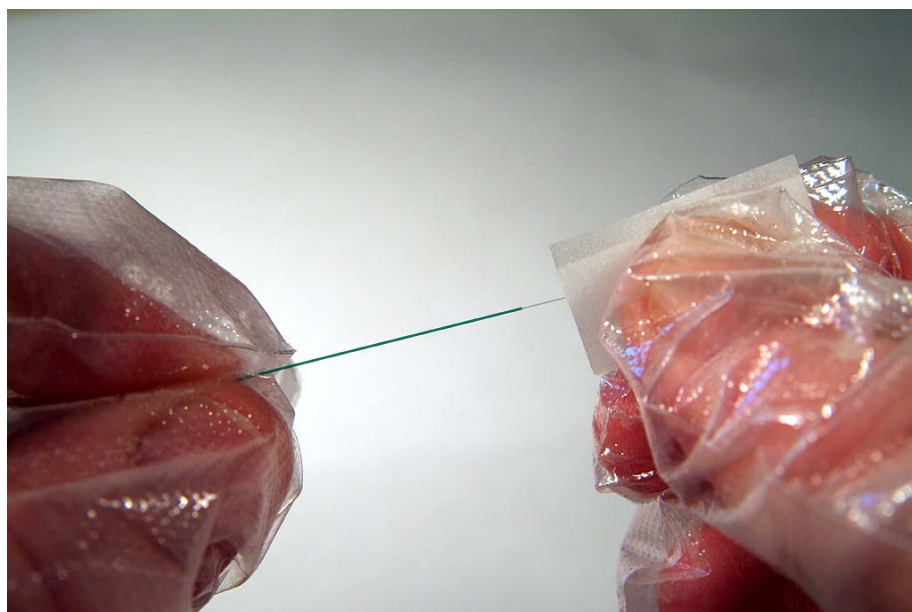


Figure 4.16 – Cleaning fibre with Medi-Swab

6. Position the fibre in the foremost (front) guide marked as “250” from the left hand side so that the fibre sits in the bottom of the V grooves.

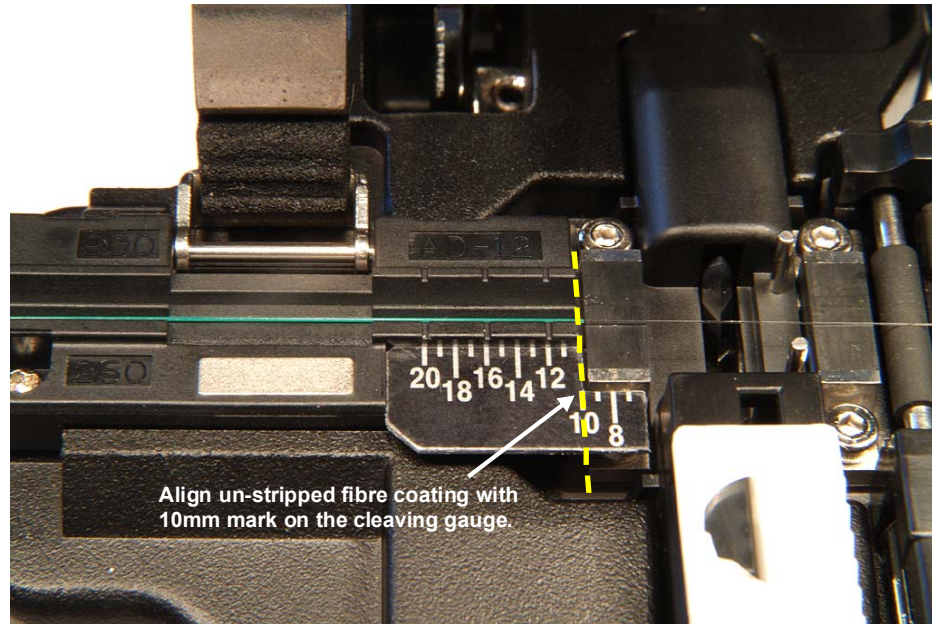


Figure 4.17 – Positioning 250µm fibre in cleaver

7. Set the cleave length by laterally positioning the fibre such that the coloured or buffered coating aligns with the correct distance on the cleave length scale. For example, if the desired cleave length is to be 10mm, align the edge of the coating on the fibre with the "10" mark on the scale.
8. Hold the fibre in position within the guide with a finger on your left hand and whilst doing so, lower the magnetic fibre clamp to secure the fibre in position ready to cleave.

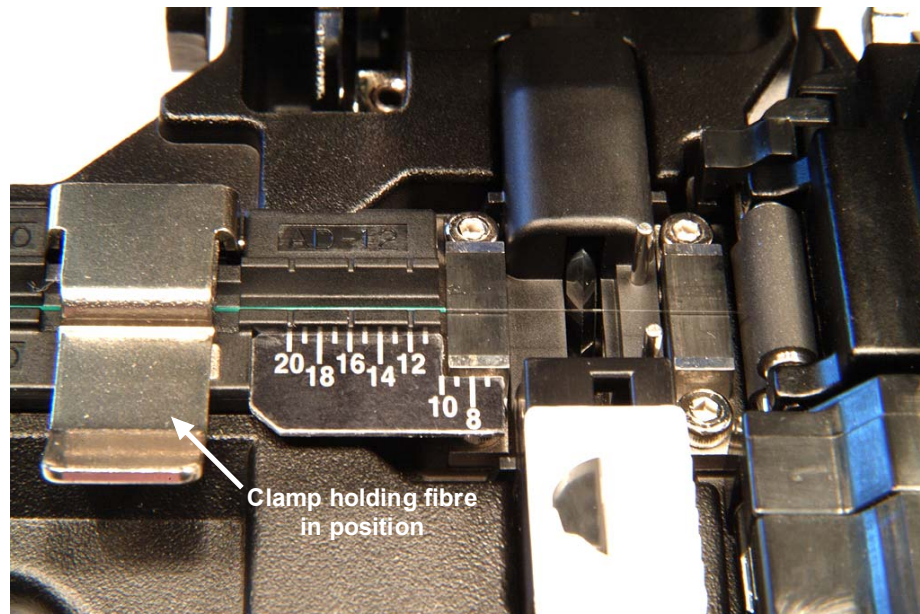


Figure 4.18 – Clamped 250µm fibre

9. Slide the white upper clamp stopper forward in the direction of the arrow as shown in figure 4.15.
10. Ensure the upper fibre roller is in the downward position.
11. Lower the anvil to position the upper clamp pads onto the fibre.
12. With a quick downwards stroke, follow through levering the anvil to cleave the fibre.



Figures 4.18 & 4.19 – Cleaving action

13. Slowly release the pressure on the anvil and allow it to return to its upper rest position.
14. Press the roller actuator lever to pull the waste fibre into the scraps bin.

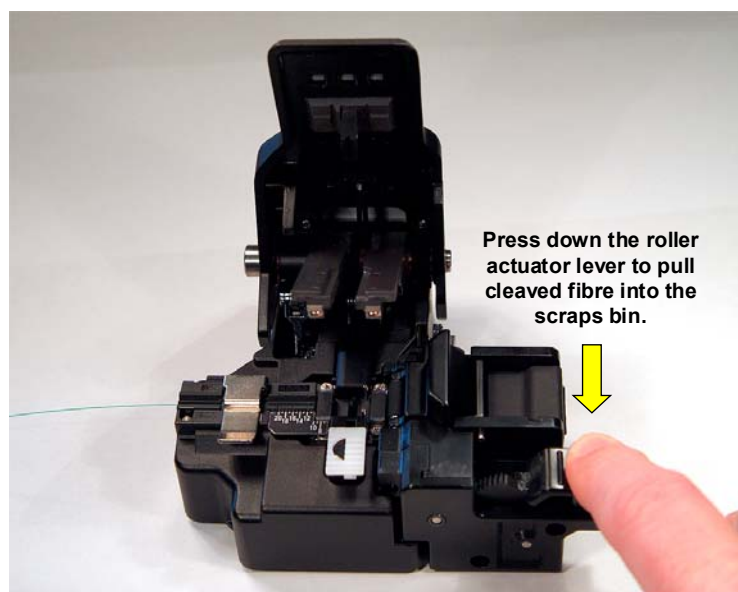


Figure 4.20 – Pressing the roller actuator lever safely drags the spent fibre into the scraps bin

15. Release the fibre from the V groove by raising the magnetic clamp.
16. The cleaved fibre is now ready for splicing.

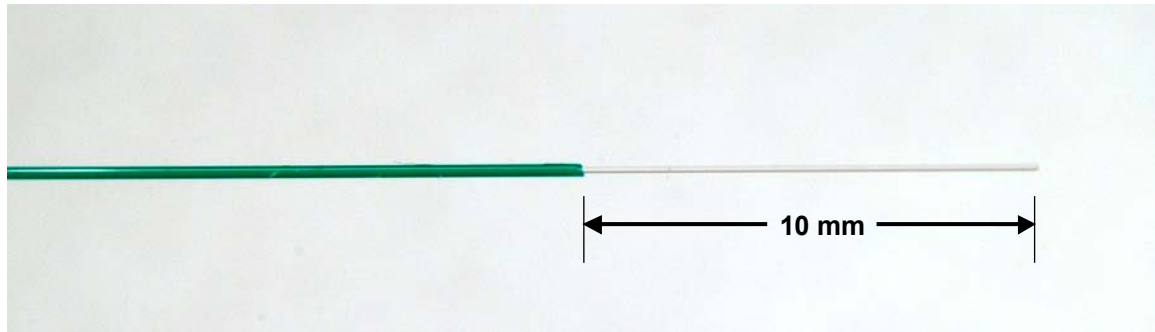


Figure 4.21 - 250µm fibre cleaved to 10mm ready for splicing

To cleave a 900 micron buffered fibre

1. Before commencing this procedure, ensure you observe all safety precautions. That is you are wearing suitable protective eyewear and your hands are protected by disposable plastic gloves.
2. Strip the outer buffered coating from the fibre to a length no less than 45mm using a suitable fibre stripping tool. This operation can be difficult. It is recommended you use a suitable stripping tool designed for the purpose of stripping 900 micron buffered fibre. The Sumitomo model JR11 has jaws designed to strip both 250 and 900 micron fibres. If using this tool, use the 900 micron side only.

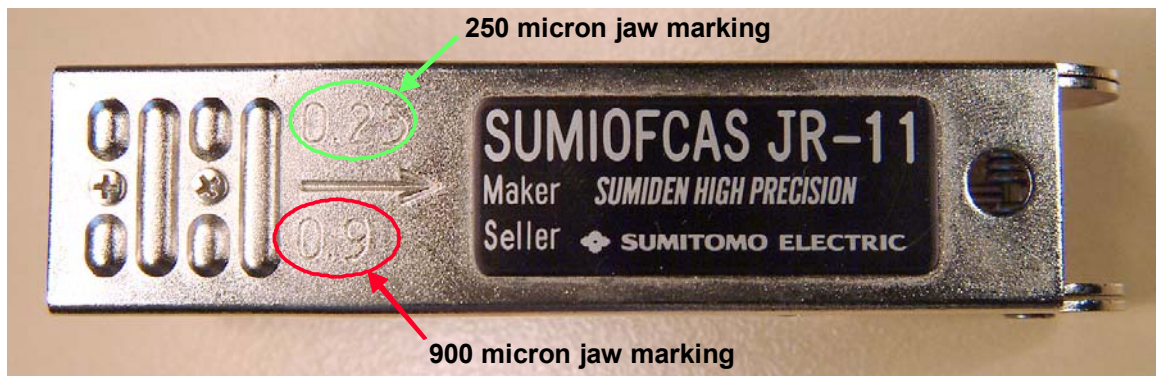


Figure 4.22 – Sumitomo JR11 stripper showing 250 and 900 micron jaw markings

3. The outer buffer coating of 900 micron fibres can be difficult to remove. Try stripping off shorter (10 – 15mm) lengths of the outer coating at a time until the desired strip length is achieved. Trying to strip off too much of the buffered coating at a time may fracture or break the glass fibre.
4. **Ensure all the buffered and protective coating is removed from the fibre.** In many instances the stripping action leaves a very thin layer of protective transparent coating over the glass fibre which is very difficult to see with the naked eye. Ensure you remove this layer completely before cleaning or attempting to cleave the fibre. If any residual coating is still adhered to the glass fibre it will make it impossible to cleave the fibre.
5. Once the fibre is stripped and cleaned it is ready for cleaving. Position the fibre in the 900 micron groove in the cleaver, aligning the fibre for a cleave length of no less than 10mm.
6. Cleave the fibre as you would for a 250 micron fibre.

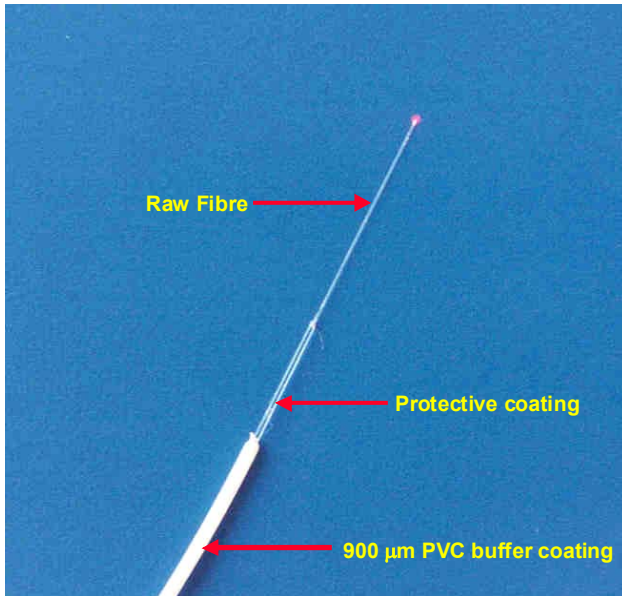


Figure 4.23 – Buffered 900 micron fibre showing PVC buffered coating, transparent protective coating and the raw 125 micron glass optical fibre.

Preparing pigtail jumpers for splicing

Pigtail jumpers must be prepared for splicing using the following procedure –

1. Remove 900mm of the outer yellow PVC jacket. This can be achieved by cutting through the jacket with a tube cutter or similar instrument. Be careful when removing the PVC outer jacket to not stretch the buffered coating or damage the fibre. If necessary, remove the jacket in shorter lengths, taking care not to cut through the buffer coating.
2. Cut off the Kevlar strands using Kevlar scissors. See figure 4.27.
3. Strip approximately 50mm of the buffered coating and the transparent protective coating to expose the raw glass fibre. Ensure you use the correct tool for the job and strip only short lengths at a time to prevent stretching or breaking the glass fibre.
4. Cleave the fibre to a length of 10mm as described previously.
5. Affix fibre number identification tags to both ends of the pigtail jumper.

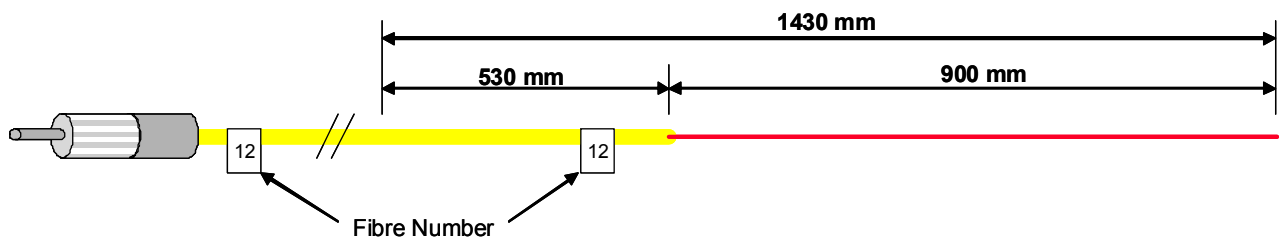


Figure 4.24 – Pigtail jumper preparation and numbering