



Applications Engineering Notes

Document Title	US Conec Recommended Epoxy Bead Size and Polishing Preparation for MT Ferrules
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1.0 Introduction

1.1 Purpose

To provide epoxy bead size and polish preparation guidelines for MT ferrules.

1.2 Scope

These guidelines apply to the epoxy beads resulting from the termination process of MT ferrules.

2.0 Epoxy Bead Size Recommendations

2.1 Proper Bead Size

2.1.1 The epoxy bead must encapsulate the fibers completely at the ferrule/fiber bond. Images 1 and 2 demonstrate recommended and not recommended bead size.

Bead encapsulating all fibers

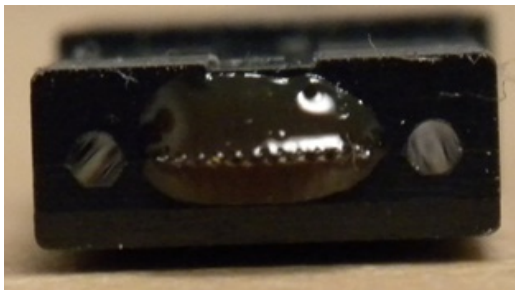


Image 1 Recommended bead size

Bead too large



Image 2 Not recommended bead size

2.1.2 The epoxy bead should not extend to the guide holes, as this can cause the guide holes to become contaminated and/or break out the sides of the ferrule. See Image 3 for improper bead.

Epoxy wicking into guide hole

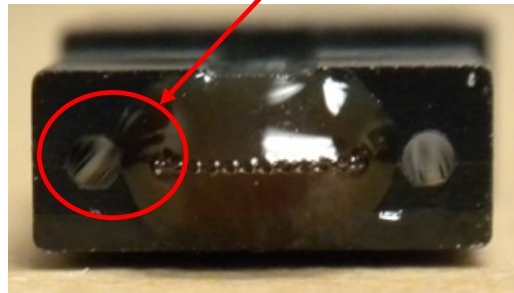


Image 3 Improper bead

- 2.1.2.1 If epoxy does wick into the holes, a guide pin may carefully be inserted, after curing, to remove the epoxy. Be sure to clean the holes thoroughly using ultrasonic bath and/or guide hole cleaning tool, PN 9726.

Note: If using a guide pin to clear epoxy, inspect the guide hole carefully for chipping or cracking due to epoxy bonding to the ferrule.

2.2 Special Considerations for Other Ferrule Types

- 2.2.1 Multi-row ferrules typically have a larger epoxy bead size since there are more fibers to encapsulate.
- 2.2.2 For pre-angled ferrules, the epoxy bead should not extend onto the flat area of the ferrule. See Image 4 and 5 for recommended and not recommended bead size.

Pre-angled flat section

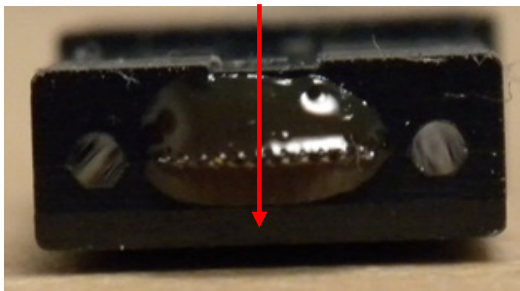


Image 4 Recommended bead size

Epoxy bead on pre-angled flat section

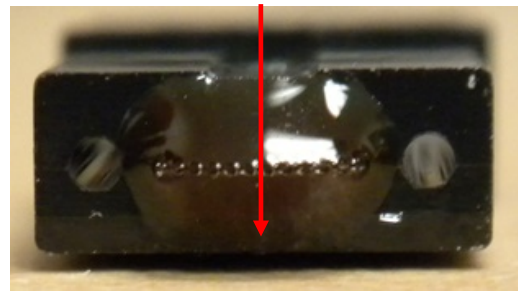


Image 5 Not recommended bead size

Note: Excessive epoxy that extends to the flat section can require additional polishing which results in a shorter ferrule length. Additional polishing time can result in a ferrule length too short for proper spring force and loss of fiber tip physical contact.

3.0 Polishing Preparation

- 3.1 Prior to loading ferrules into the polishing fixture, fibers should be scribed close to the bead.
- 3.2 Epoxy beads must be hand polished using 30um SC film to reduce the height and have even distribution.
- 3.3 Hand polished bead sizes should be uniform within the polishing fixture for best results. See Image 6 and Image 7 for guidance.

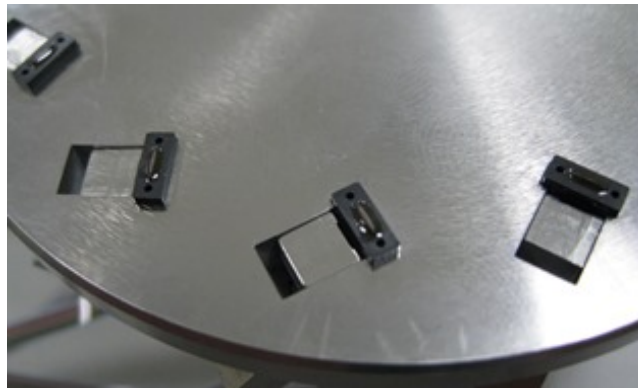


Image 6 Consistent bead size



Image 7 Consistent bead size throughout fixture

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