

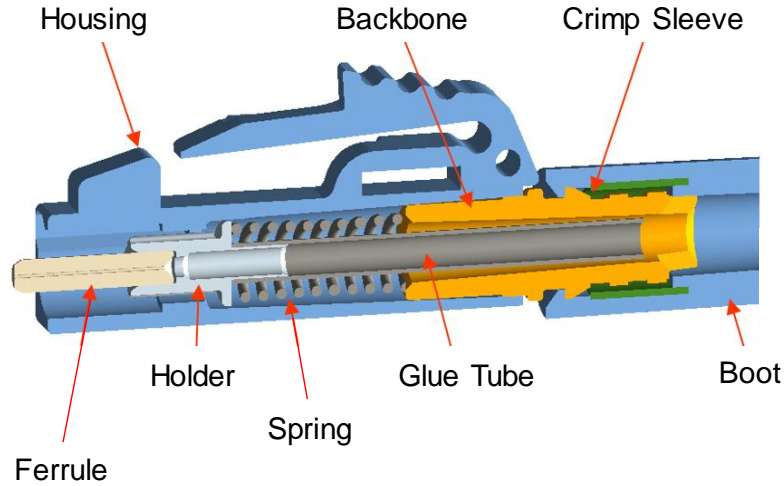
# Selecting the lowest cost optical connector

## Butt Coupled vs. EBO

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Multi Gigabit Automotive Optical PHY Study Group  
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# Butt Coupled Connector components (LC)



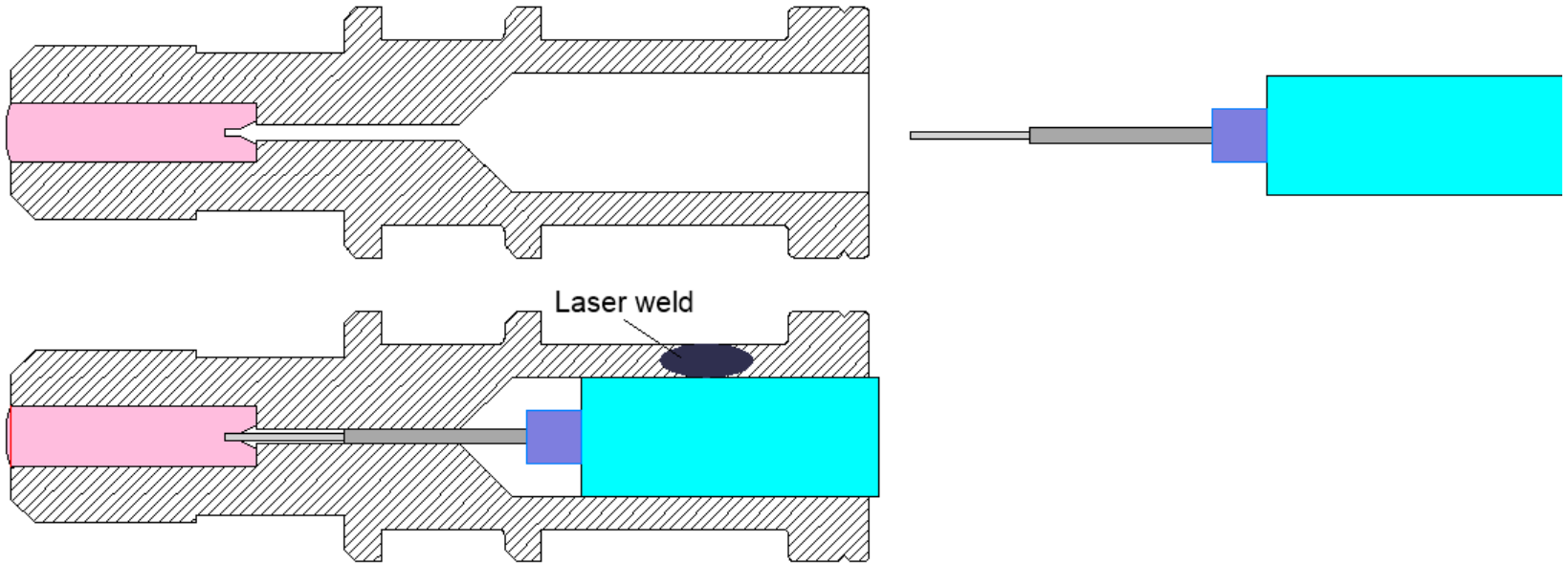
- Inline adapter
- Split sleeve



1. Ferrule
2. Ferrule holder
3. Glue tube
4. Spring

Assembly Required

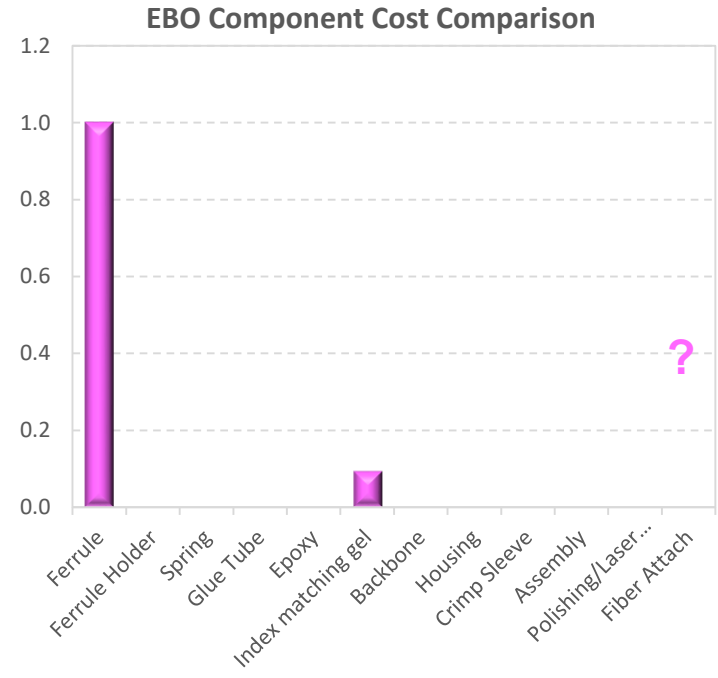
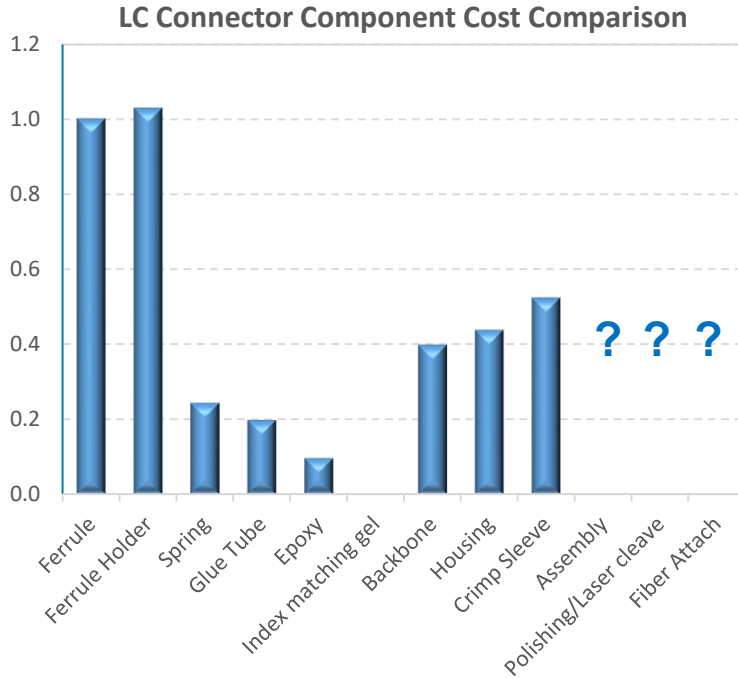
# Expanded beam Ferrule with C-Lens for EBO



Single molded component – Lens + Ferrule

# Cost comparison

- Assuming Ferrule costs are approximately equal



# Butt Coupled vs. Expanded Beam MDI

## Butt Coupled

### Pros

- Lowest Insertion Loss
- Deployed in high volume

### Cons

- Higher cost than expanded beam
- Tight alignment tolerances
- Sensitive to contamination

## Expanded Beam

### Pros

- Lowest cost
- More reliable under adverse conditions
- Relaxed alignment tolerances
- Can be made to comply with existing MOST form factor – utilize adapters

### Cons

- Higher IL compared to Butt coupling

Trade low loss for low cost & reliability under adverse conditions

# Cable Assembly

## LC – Physical Contact

1. Strip and cleave fiber
2. Insert epoxy
3. Insert fiber
4. Cure epoxy
5. Polish or laser cut
6. Final assembly
  - a. Crimp Kevlar

## Expanded beam connector

1. Strip and cleave fiber
2. Insert fiber
3. Laser weld or equivalent

# Straw Poll

- A. I would support a butt coupled optical connector system
- B. I would support an expanded beam optical connector system
- C. I have no preference

Number of participants:

A:

B:

C: