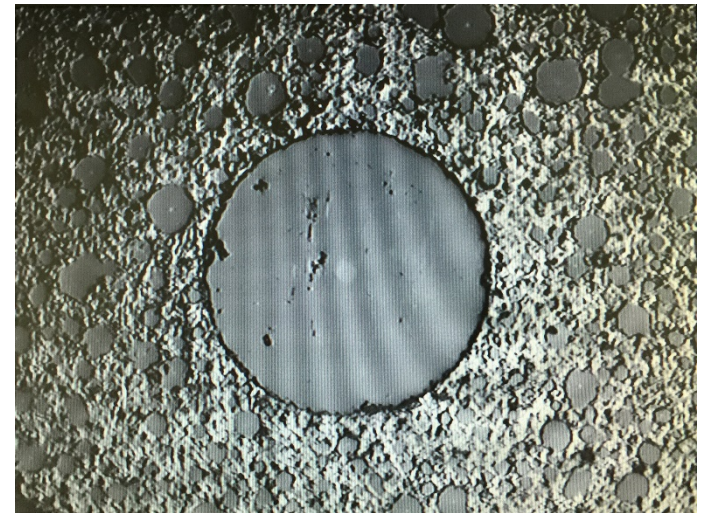
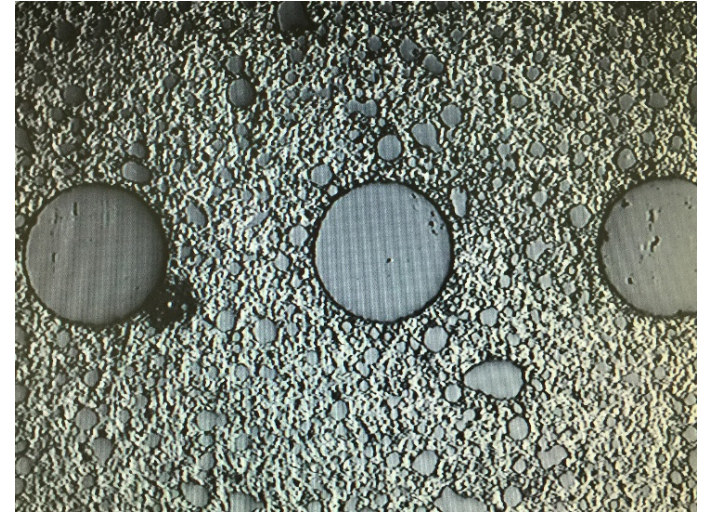


Fiber Optic Training Sessions

Preventing Damage to Optical Connectors

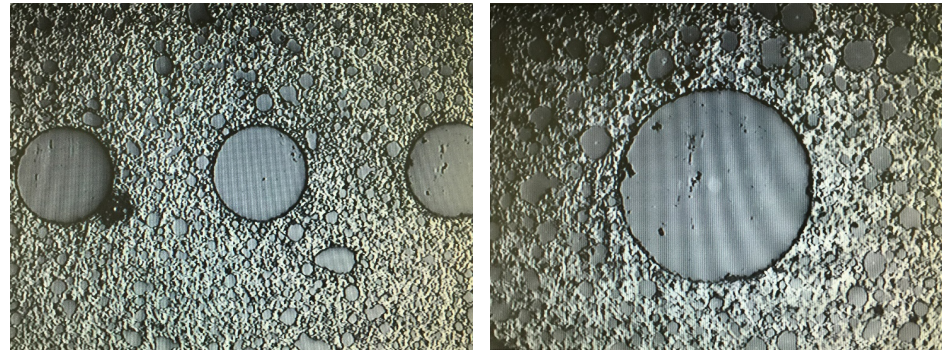
March 2019



Imperfect Connectors

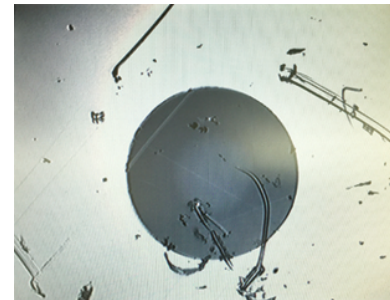
CAUSED BY:

- Dirt
- Scratches
- Pits
- Moisture
- Alcohol residue

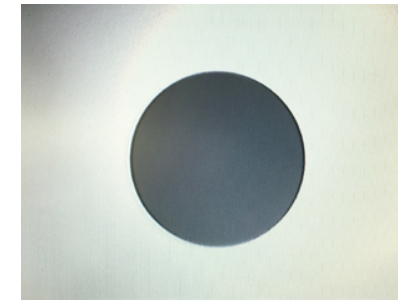


RESULT IN:

- High insertion loss
- More back reflection / high return loss
- Need for re-polishing or re-termination



1310nm	0.240	dB
1550nm	0.269	dB
1310nm	50.20	dB
1550nm	50.93	dB



1310nm	0.166	dB
1550nm	0.168	dB
1310nm	56.58	dB
1550nm	57.03	dB

Imperfect Connectors

Replacing damaged cables:

- Expensive, recurring costs


Repairing damaged connectors:

- Re-polish or re-terminate
- Longer downtime
- Takes time away from production

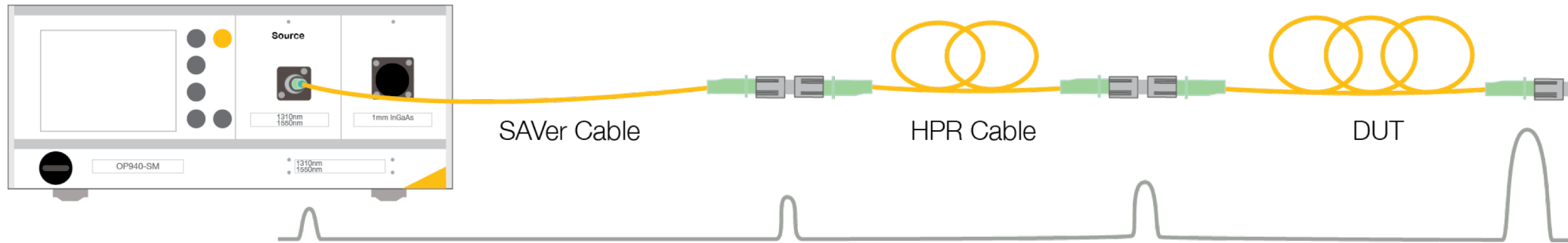
Prevention:

- No downtime
- No resources away from production
- Inexpensive to implement
- Minimal recurring costs

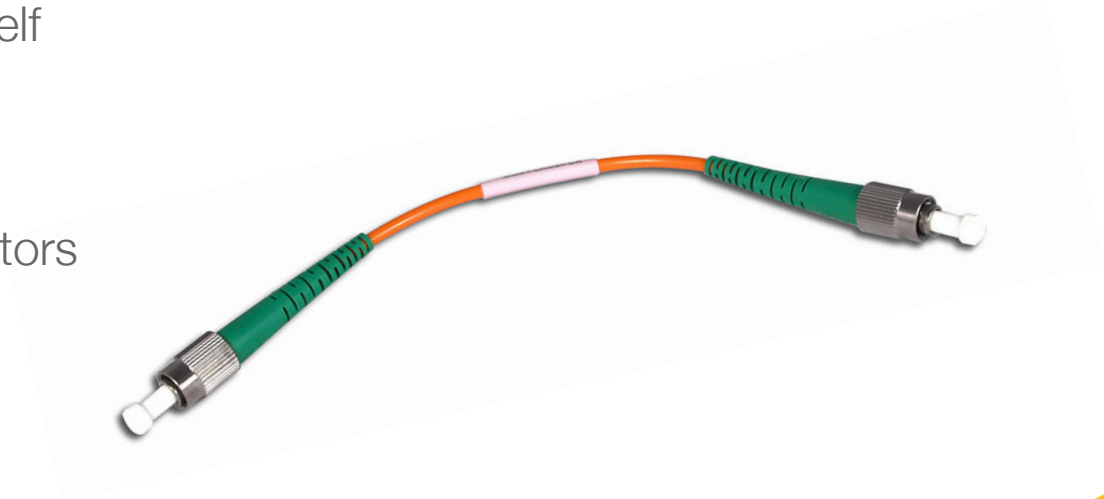
Prevention is the simplest and least expensive way to approach this issue!

- Interface SAVER cables
 - Extension leads
 - Dust caps
 - Visual inspection and cleaning
- 

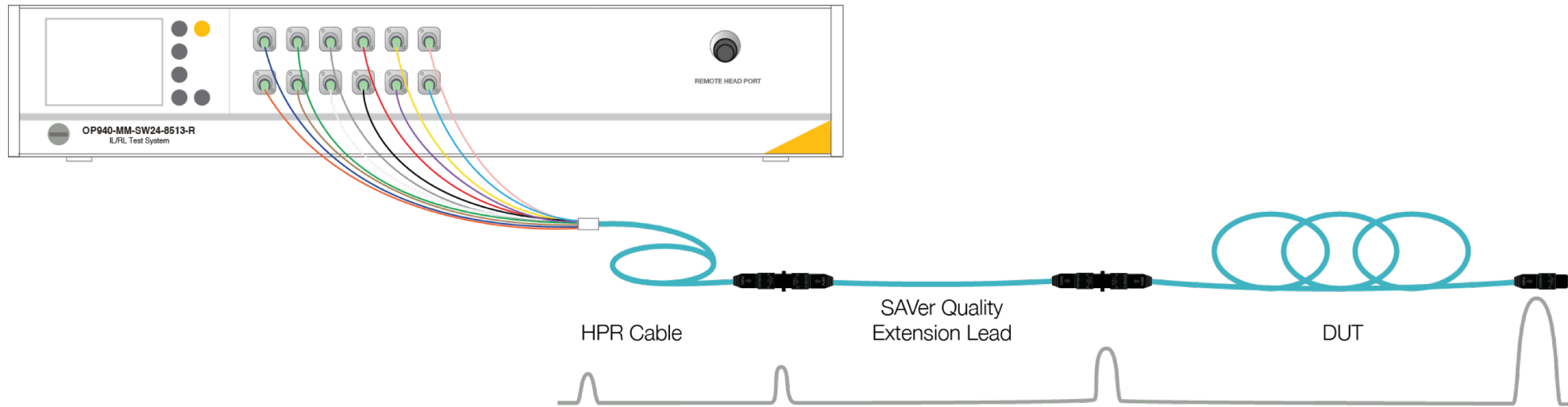
Prevention: Interface SAVer Cables



- Extends the front panel: minimize mating to the front panel itself
- Creates new connection interface
- Easily accessible interface for cleaning and polishing
- Connector flexibility: substitute in cables with different connectors for different devices under test
- Replaceable: as needed or on a schedule

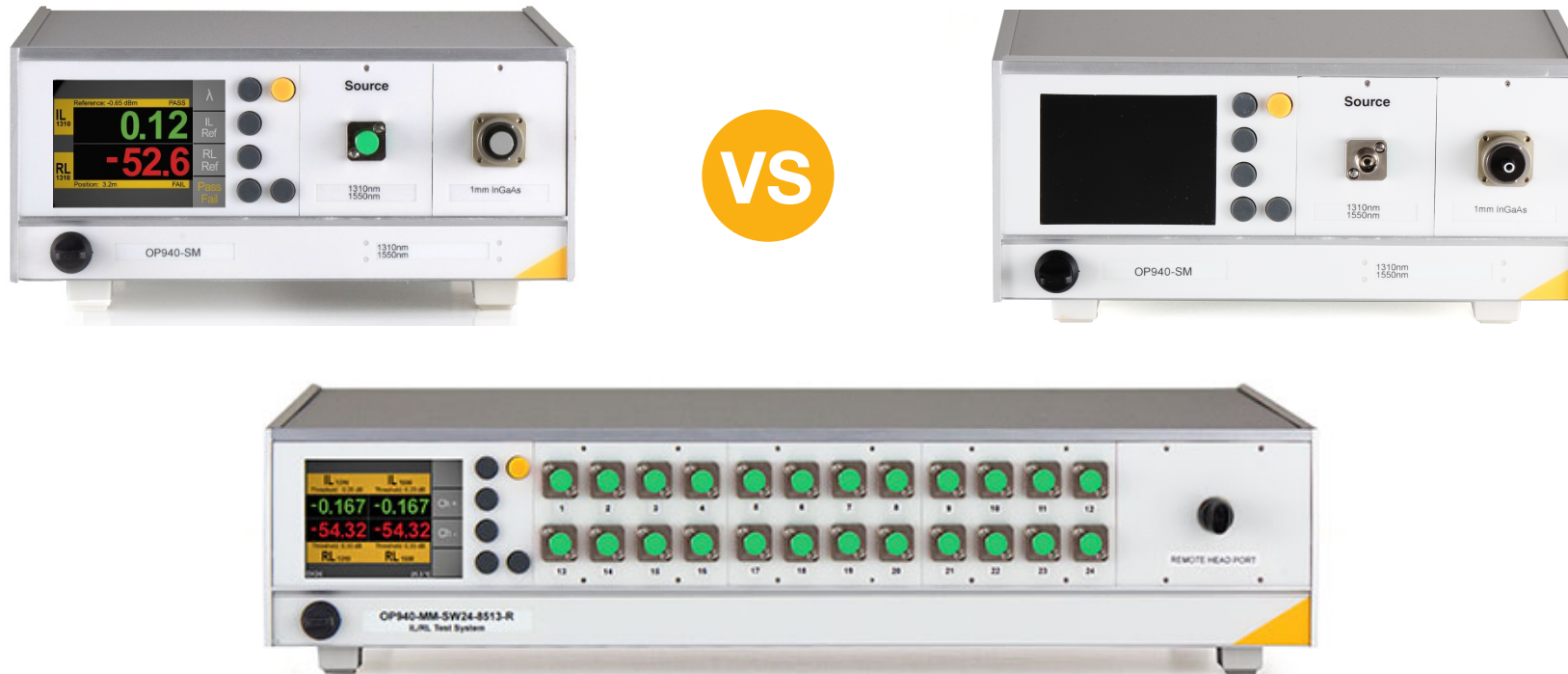


Prevention: Extension Leads



- Cost-efficient replacement compared to the fanout cable
- Connector and gender flexibility: male or female connectors as needed for the reference fanout and DUT
- Extends the front panel
- Creates new connection interface
- Easily accessible interface for cleaning and polishing

Prevention: Dust Caps



- For any ports on the front panel or connectors not in use
- When ports/connectors are in use, store dust caps nearby

Inspection & Cleaning

Always inspect before mating cables

- Identifies contamination before it can cause issues
- Extends the life of connectors
- Reduces replacement/repair costs



Inspection Tools

- 200x/400x handheld inspection scopes
- 200x/400x benchtop CCD inspection scopes
- Connector and bulkhead CCD inspection scopes



Inspection & Cleaning

Cleaning Tools

- Connector cleaner for 2.5mm, 1.25mm, or MTP/MPO connector types
- Bulkhead/Mating adapter cleaners
- Appropriate cleaning wipes



Cleaning methods

To prevent unwanted residue, first try using a clean, dry cloth or cleaning tool

If not clean after 2 or 3 attempts, try cleaning with isopropyl alcohol

After using alcohol, make sure to dry the connector

After cleaning, make sure to inspect again





For more details, see our Application Note:

AN137 Preventing Damage to Optical Connectors

www.optotest.com/137-preventing-damage-optical-connectors/

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