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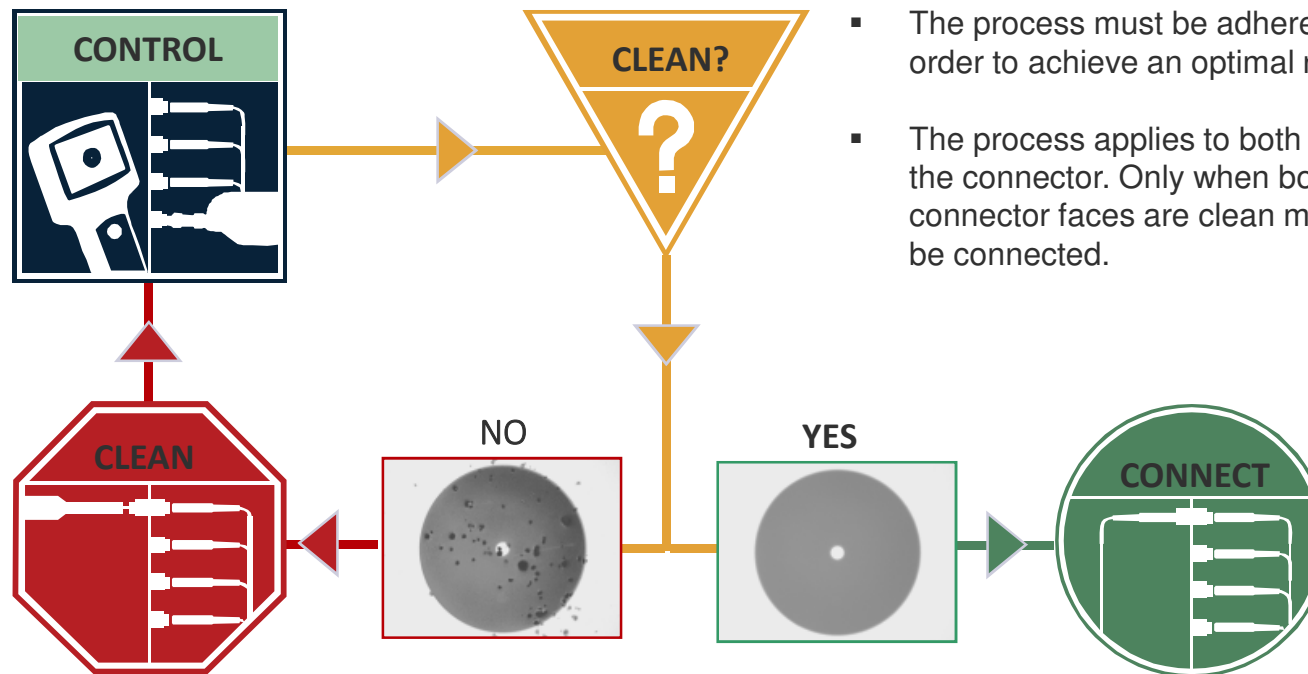
OPTICAL SOLUTIONS & INFRASTRUCTURE

Cleaning and inspection fiber optic connectors

www.rosenberger.com/osi

General information

Process of inspection and cleaning of fiber optic connectors



- The process must be adhered to in order to achieve an optimal result.
- The process applies to both sides of the connector. Only when both connector faces are clean may they be connected.

Source: VIAVI

Cleaning and inspection of fiber optic connectors

Overview connector inspection tools

Dry and wet cleaning tools

Dry cleaning tools for loose connectors (lint-free cleaning cloths or tapes)



AFL Fiber Wipes



Sticklers Clean Wipes



AFL Card Cleaner



AMS Reelcleaner

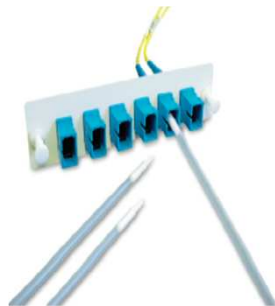


Optipop Pipe Cleaner



Seikoh FerrulePro

Dry cleaning tools for installed connectors



AFL Cletop Sticks



Fujikura Oneclick



Seikoh FerruleMate



UC Conec MTP®-Cleaner

Cleaning and inspection of fiber optic connectors

Overview connector inspection tools

Dry and wet cleaning tools

Wet cleaning tools for loose connectors and installed connectors



AFL pump bottle

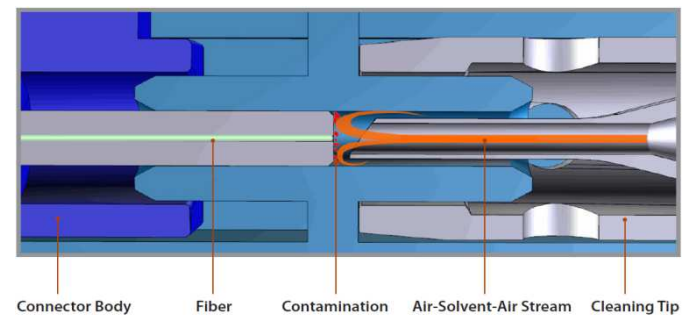


FIS soaked wipes



AFL cleaning fluid

CleanBlast



Source: VIAVI

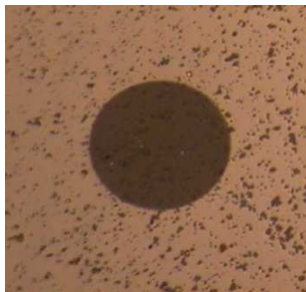
Cleaning and inspection of fiber optic connectors

Overview connector inspection tools

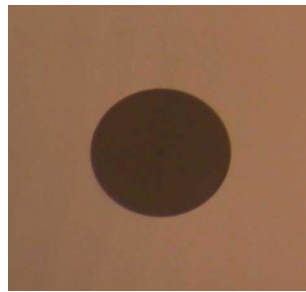
Cleaning tools in use

Cleaning with different types of contamination

Cleaning of dust



beforehand

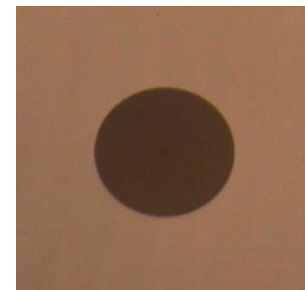


afterwards

Cleaning of grease



beforehand



afterwards

Source: AFL

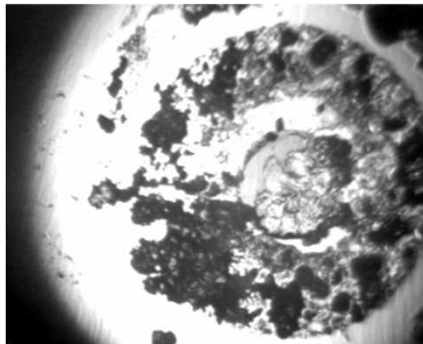
Cleaning and inspection of fiber optic connectors

Overview connector inspection tools

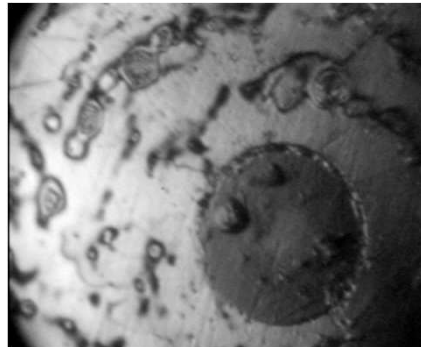
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Cleaning process of heavily dirty connector faces

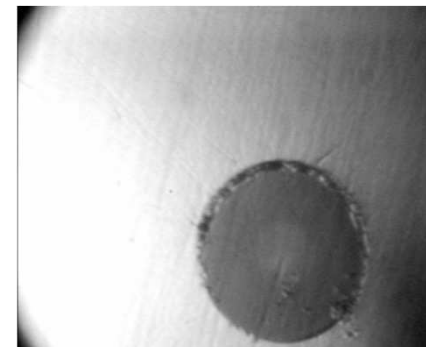
How to clean optical connectors correctly?



Heavily dirty plug



With Isopropyl precleaning



Always dry clean again

Is the result
sufficient?

Cleaning and inspection of fiber optic connectors

Overview connector inspection tools

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Inspection tools in the field and for production

Handheld microscope



Microscope probe with LCD display



Microscope probe for production



Microscope probe on the measuring instrument in the field

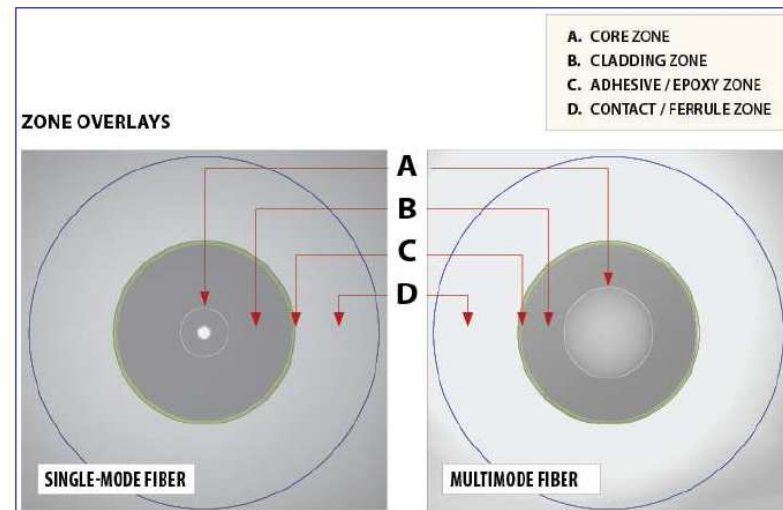


Source: VIAVI

IEC 61300-3-35

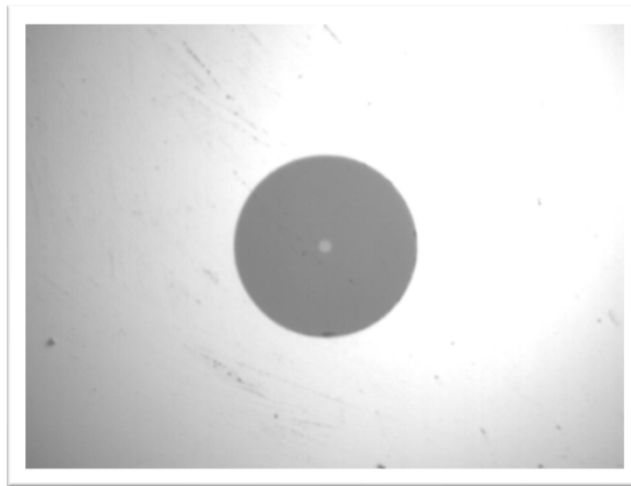
What does IEC 61300-3-35 say?

- IEC 61300-3-35 describes the usability of a connector face with regard to possible damage or contamination.
- The connector front surface is divided into four zones to be considered, core area, sheath area, adhesive edge, inner ferrule area.
- Criteria have been defined for damage or contamination with regard to its size and location in relation to the centre of the core.
- There are different criteria for multimode and singlemode.

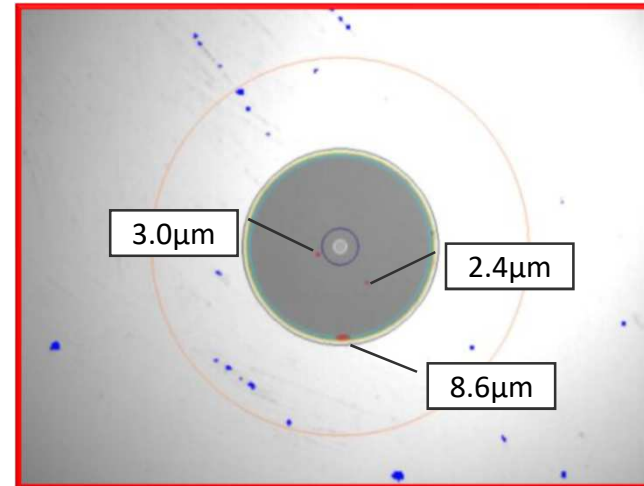


Source: VIAVI

Pass or Fail?



Subjective view: Pass or Fail???

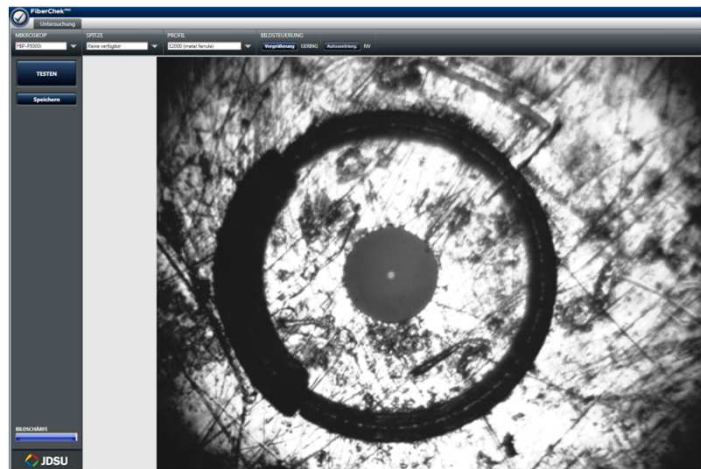


Evaluation with pass/fail analysis results in Fail!!!

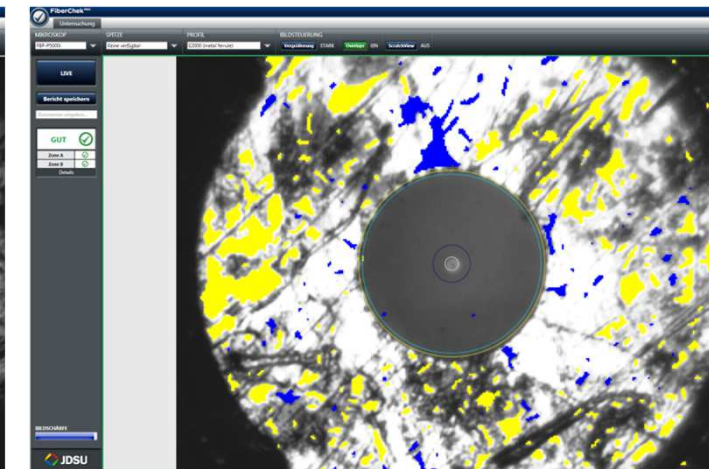
Source: VIAVI

Cleaning and inspection of fiber optic connectors IEC 61300-3-35

Pass or Fail?



Pass or Fail???



Pass, since metallic plug and only the glass jacket and glass core and not the ferrule is analyzed.

Documentation for acceptance in the event of a fault

FiberChek^{PRO} Faseruntersuchung

Untersuchungsdatum
Firmenname
Ort
Operator

Faserinformationen

Dateiname: ibc01.pdf
Fasertyp: Sim plex
Auftrags-ID: Inspect before Connect
Faser-ID: 1
Anmerkungen: ohne Reinigung

SCHLECHT ❌

Untersuchungszusammenfassung

Profilname: MM (IEC-61300-3-35)

Zone	Beschädigungen	Kratzer
Zone A (0 - 65)	SCHLECHT	GUT
Zone B (65 - 120)	SCHLECHT	GUT
Zone C (120 - 130)	GUT	GUT
Zone D (130 - 250)	GUT	GUT

Geringe Vergrößerung | Starke Vergrößerung

Analyse details
Zone A: [BESCHÄDIGUNGEN] Mehr als 4 Schäden.
Zone B: [BESCHÄDIGUNGEN] Beschädigung > 5 µm, Mehr als 5 Beschädigungen mit einem Durchmesser > 2,0 µm.

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Connector before cleaning

FiberChek^{PRO} Faseruntersuchung

Untersuchungsdatum
Firmenname
Ort
Operator

Faserinformationen

Dateiname: ibc02.pdf
Fasertyp: Sim plex
Auftrags-ID: Inspect before Connect
Faser-ID: 2
Anmerkungen: nach Reinigung

GUT ✅

Untersuchungszusammenfassung

Profilname: MM (IEC-61300-3-35)

Zone	Beschädigungen	Kratzer
Zone A (0 - 65)	GUT	GUT
Zone B (65 - 120)	GUT	GUT
Zone C (120 - 130)	GUT	GUT
Zone D (130 - 250)	GUT	GUT

Geringe Vergrößerung | Starke Vergrößerung

Analyse details

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Connector after cleaning

Resume

When do you... and who has to clean and inspect?

- When must cleaning and inspection be carried out?
 - Installation of the passive network for acceptance
 - For each measurement
 - During initial operation (wiring)
 - During maintenance
- Who needs to clean and inspect?
 - Manufacturer
 - Installer
 - Maintenance technician
 - Systems engineer

In principle, it must be inspected and cleaned anyone who dissolves or establishes an optic connection!



Source: VIAVI



Practice

Examples of contaminated connectors

