

# New Termination Techniques for POF

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Chairman, POFTO Standards Committee

# Termination Techniques for POF



- **FiberFin's history**
- **Professional tools or disposable cutters**
- **Connectorless or Plug less = Fiber or Fibre?**
- **Industrial Fiber Networking Standards**
- **What's the future of POF?**

# Termination Techniques for POF, FiberFin's history



## What is FiberFin?

- **FiberFin** = **Fiber**=**Fin**=ishing
- The **FiberFin** was developed for Plastic connectors and fiber. Where is difficult to achieve a very fine finish in a short time
- The standard at the time was polishing paper and lots of figure "8"

# Termination Techniques for POF, FiberFin's history



- **Diamond finishing, “No Polishing”**

## The **FiberFin®** “No Polishing”

process is the culmination of years of research and development effort aimed at finding a method for terminating plastic fiber optics which result in consistent finishes every time. This process is machining process using a single crystal diamond, the FiberFin technology of Diamond finishing really works as the FiberFin process machines the surface to a mirror finish in a few seconds, This process is so unique that we patented it!,



# Termination Techniques for POF, Hand tool finishing



- **Hand tool finishing, “No Polishing”**

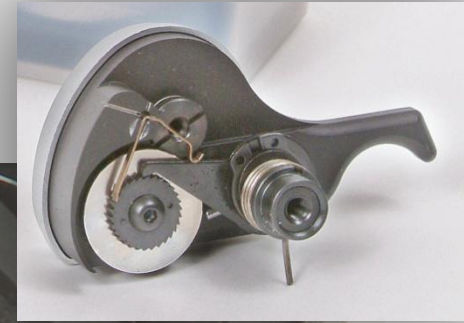
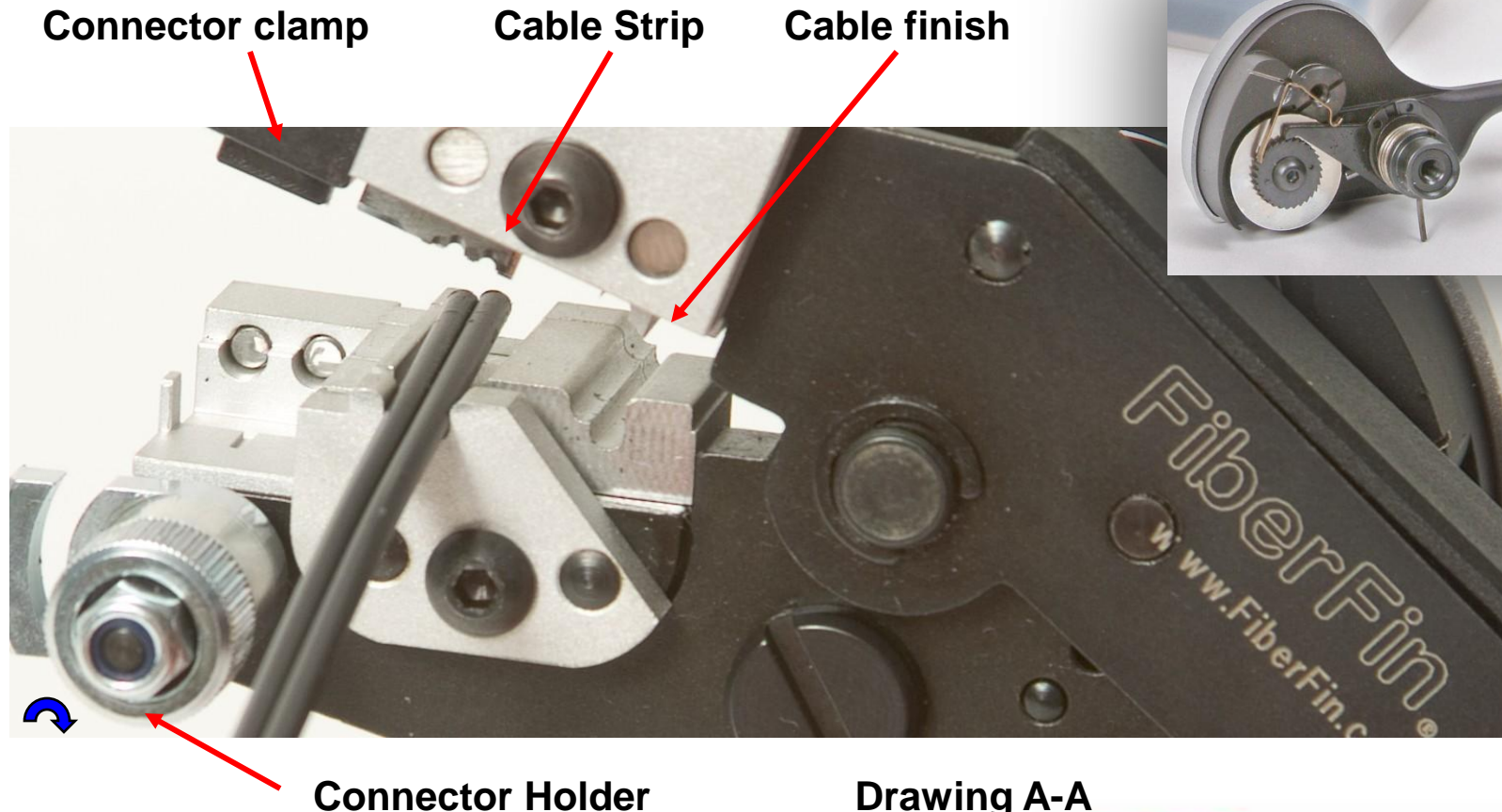
The **FiberFin®** “No Polishing”

FiberFin took it's knowledge of the “No Polishing” to the hand tool and made the professional line of tools and installer kit that gave the business owner the confidence to Install consistent termination





# Termination Techniques for POF, SMI Professional tool



# Termination Techniques for POF, Hand tool finishing



- **Disposable Hand tool finishing, “No Polishing”**

The **FiberFin®** “No Polishing”

FiberFin took it's knowledge of the “No Polishing” to the disposable tool and made the “all in one” tool for the SMI Connector \*,



\*patent pending

# Termination Techniques for POF

## Disposable POF cutters



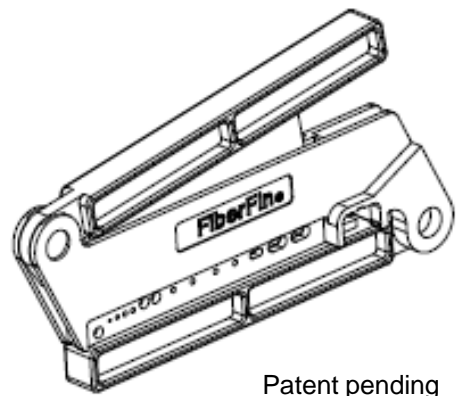
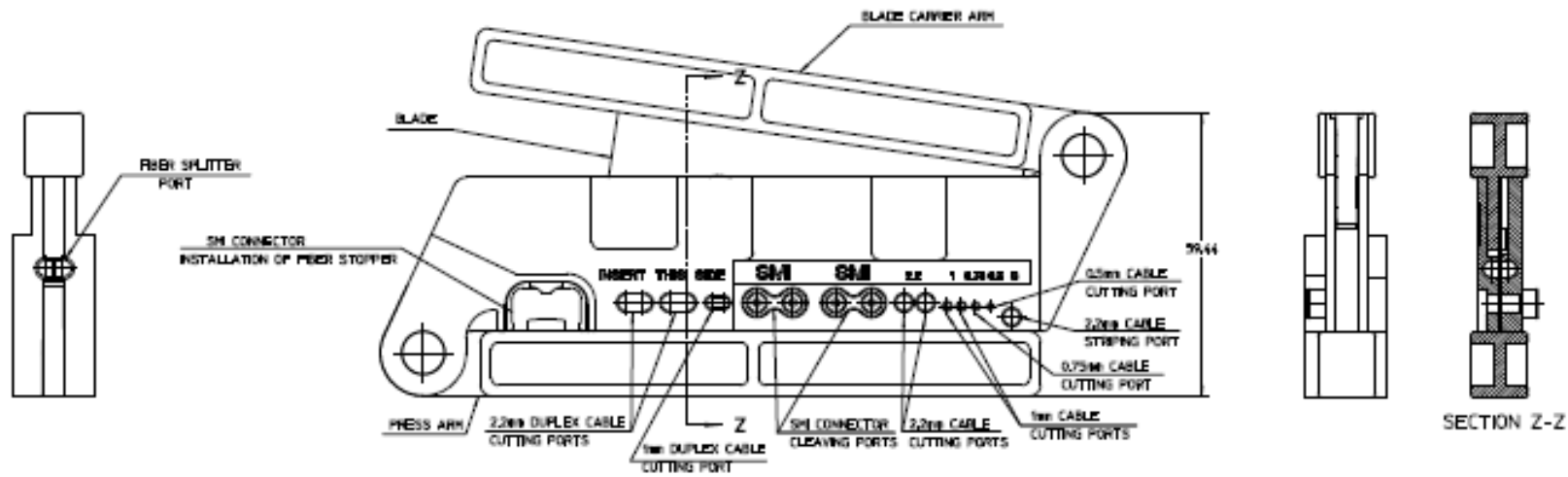
Disposable POF cutters, “No Polishing”

Current tools on the market





# FiberFin® "All in one" SMI Tool



Patent pending

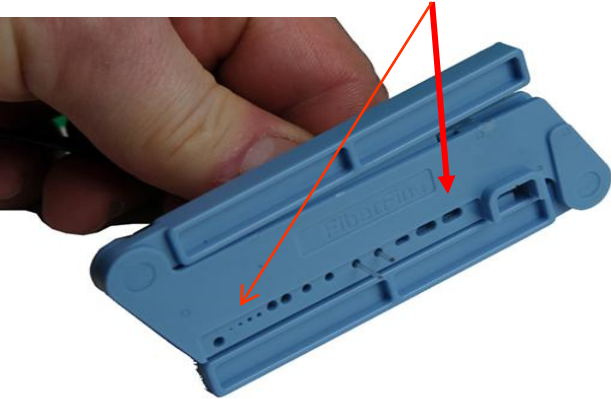


# Let's Make a POF cable!

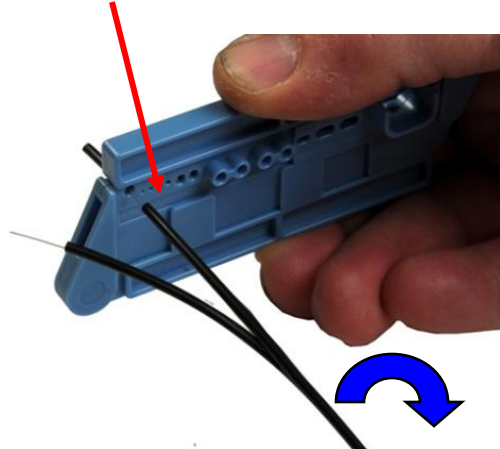
## FiberFin® "All in one" SMI Tool



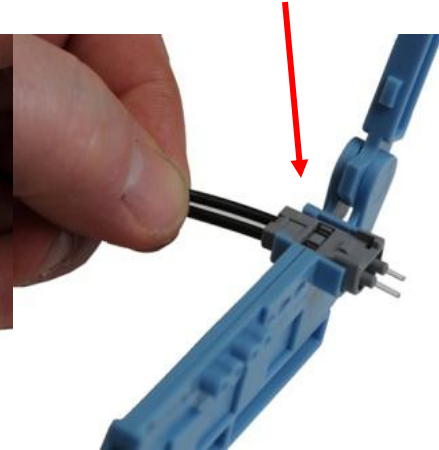
Cable finish, 13 places



Cable Strip (rotate)



Connector Holder



Connector clamp



SMI Connector finish 2 places.

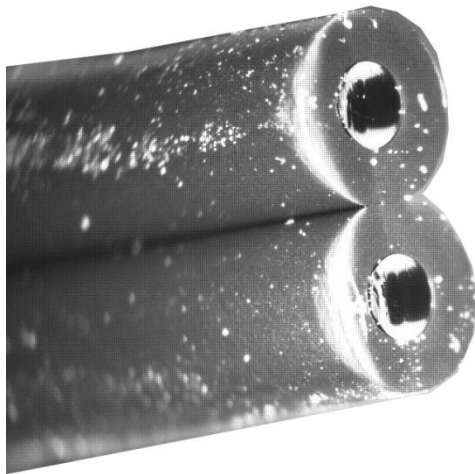


# FiberFin POF Cutter



Disposable POF cutters, "No Polishing"

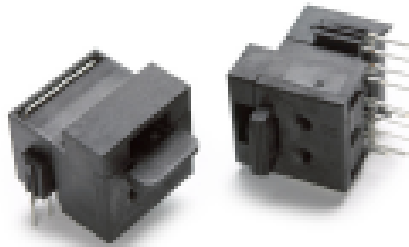
For the current connectorless transceivers



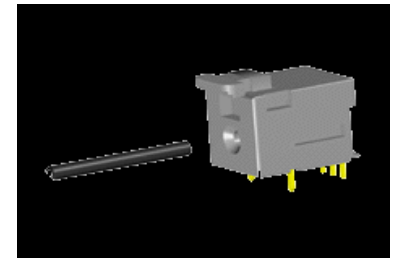
# Connector-less, “Plug less” fiber optic transceivers



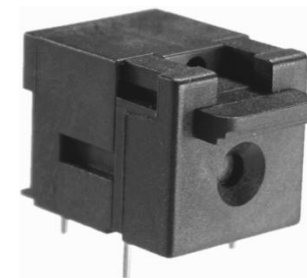
OptoLock®  
plug less fiber optic transceivers



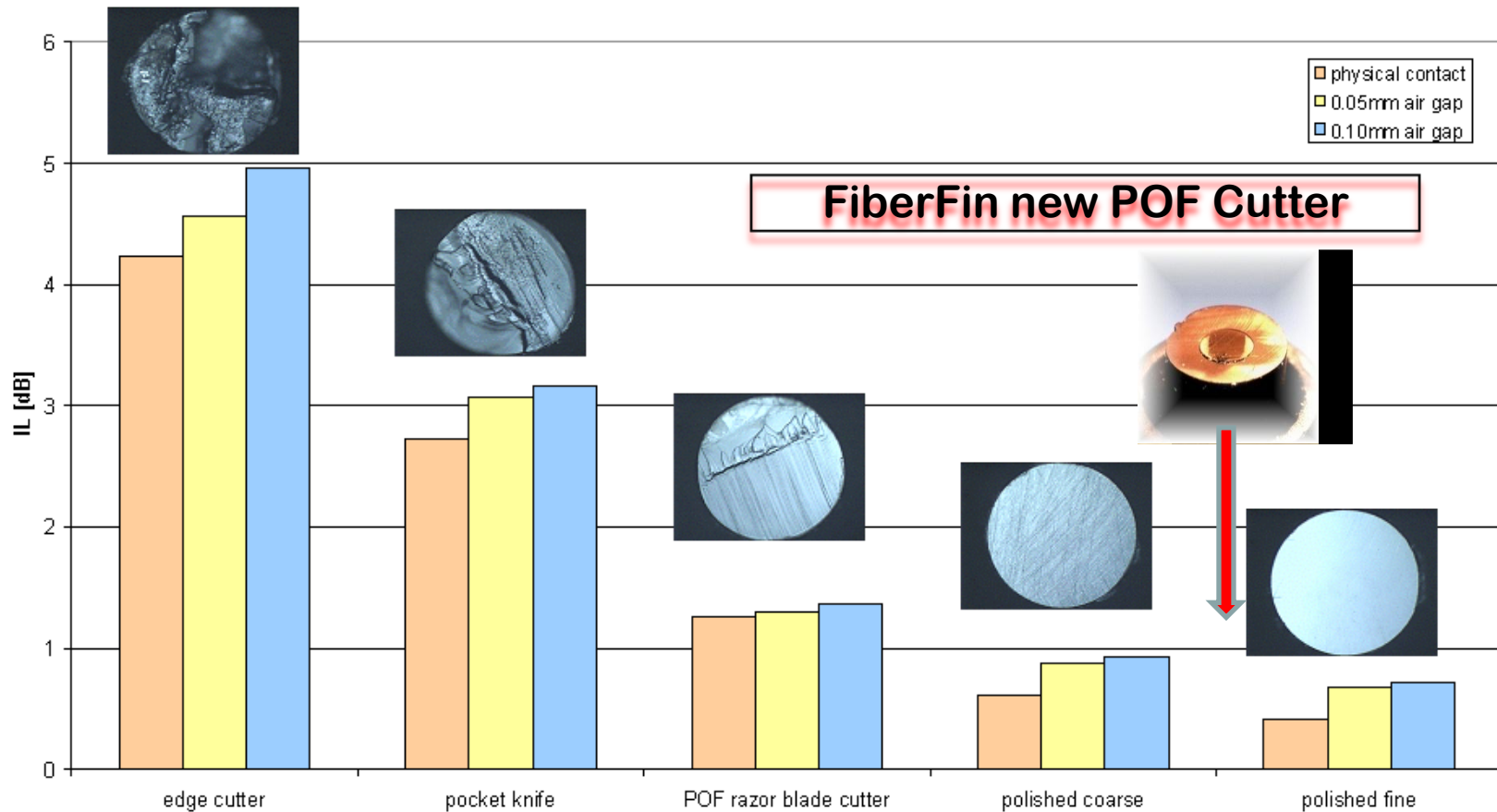
AVAGO Technologies®  
Plug less fiber optic transceivers



Plug less “RPocto Clamp”  
cable connection



# Insertion Loss of POF End faces with 980/1000 SI-POF





# This is BIG news for POF!

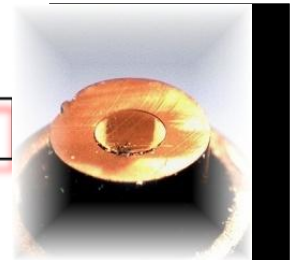
980/1000 SI-POF



## What does the new FiberFin cutter give you?

- Up to an additional 1db per termination \*
- Addition length, 5 to 15 meters of Addition length \*\*
- Or Extra bends

### FiberFin's new POF Cutter



\* Based on the average termination of db loss in typical razor cutter

\*\* Base on the Transmission loss of SI-POF of .160db/m and .170db/meter with 2 terminations

# ODVA Approves POF



ODVA, the organization that supports network technologies built on the Common Industrial Protocol (CIP™) — DeviceNet™, EtherNet/IP™, CompoNet™, and ControlNet™.

- The EtherNet/IP Chapter 8 Volume 2 ed. 1.6 was published as of November 2008 and has included 1mm POF fiber and also includes the connectorless transceivers

# The future of POF?



**The future of POF has never been brighter!**

- 1gig SI-POF transceivers (Firecomms)
- 100 meter transmission length for SI-POF
- Lower cost GI-POF
- Disposable termination tools for GI-POF

## Industrial Ethernet/IP

Industrial Networking Standard Connectors

- 1mm POF SCRJ,
- IP-67 SCRJ variant one connection systems



**FiberFin** 



**DiMoto**

**POF** Plastic Optical Fiber  
Trade Organization

Thank You!  
for your kind attention.....

Plastic Optical Fiber

**POF**DAY  
SYMPOSIUM



**FiberFin**<sup>®</sup>



**Plastic Optical Fiber  
Trade Organization**