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MT - Technology

Presented

to

NCITS T11.1 WG HIPPI 6400 Optical

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by

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- Background
- Description
- Principle
- Observation
- Influence of true position
- Consequences
- Conclusion

Task

2... 12 or more fibers to connect with one ferrule

Goals

To check:

- connectors for 12 fibers for parallel optical links
- connectors for 2 fibers to adapt to the new module generation, SFF

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MT - Technology Description

- Developed for optical connections in parallel transmission
- Rectangular ferrule
- Dimension of the key element, the ferrule
 - 2,5 mm x 4,4 mm for 4 fibers
 - 2,5 mm x 6,4 mm for 12 fibers
- High filled plastic
- Transfer molded parts
- Alignment by two metal pins
- Flat end-face for MMF
- 7° cut at the end-face for SMF with high return loss

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MT - Technology Influence of True Position on Plugability

MT principle is based on:

- position of alignment pins
- dimensions of alignment pins
- relative position of alignment pins to fiber position/
microhole
- forcible alignment on ferrule to ferrule

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Observation - Picture

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KS/Mel/FO PE B
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Observation - Position

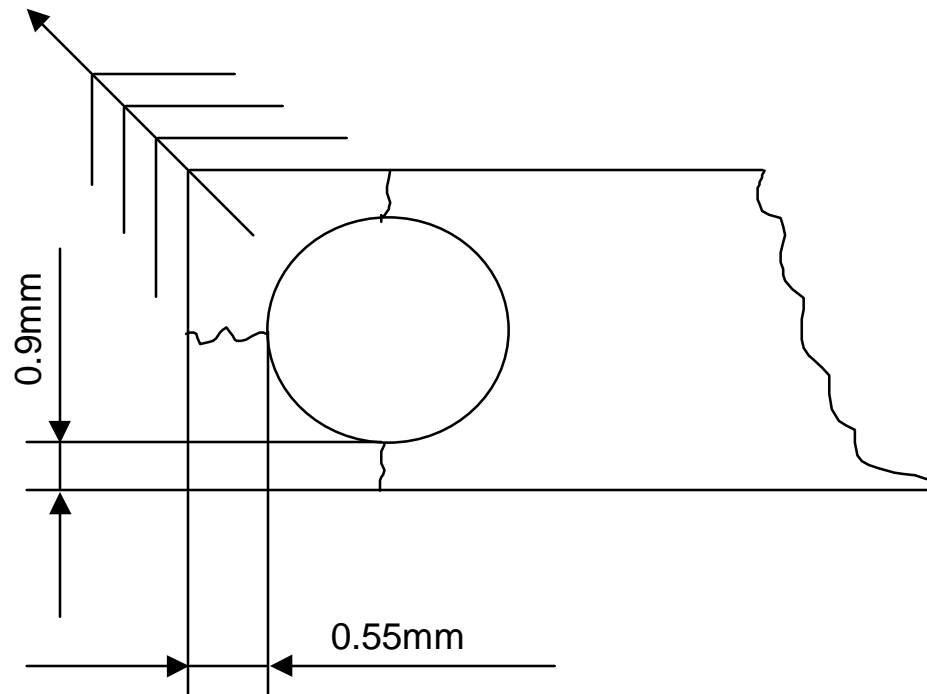
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Observation - Cracks



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MT - Technology Influence of True Position on Plugability

Consequences:

- no tolerance balance practicable
- insertion force indeterminate
- contact force indeterminate
- no physical contact
- high removal force required
- increased stress on the ferrule structure by pins
- damaged ferrule by abrasion and cracks

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MT - Technology Conclusion - Proposal

- MT-Technology is totally different to the individual alignment of single round ferrules
- Alignment cannot be done w. the principle of individual ferrules
- Alignment should not to be effected by the floating, latch, packaging
- Connector to connector and connector to optical port needs material w. the same physical behavior
- Attenuation is higher by Fresnel-loss

- **New design for alignment in respect to:
floating of the springloaded ferrule
packaging and latch for mechanical integrity**