



SERVICE SPECIFICATION / PHYSICAL INFRASTRUCTURE

Fiber splicing and testing

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Fusion splicing creates permanent strand connections. OLTS measures end-to-end insertion loss, and OTDR testing adds event-location detail when the route or acceptance plan calls for it.

Intended outcome

Labeled splice trays and strand records, insertion-loss results compared with the loss budget, and OTDR traces when specified.

Service scope

Fusion splicing aligns and joins prepared fibers, then protects and organizes the splice in a tray or closure. Splice workmanship, fiber compatibility, enclosure organization and documentation all affect restoration later.

An optical loss test set measures end-to-end insertion loss. An OTDR estimates event location and characteristics from backscatter. They answer different questions and should be specified deliberately.

How the system fits together

01 Reference plane	Defined test-cable and instrument setup for repeatable measurement
02 Connector events	Mated interfaces that contribute loss and reflectance
03 Splice events	Permanent joins organized in trays or closures
04 End-to-end path	Total cable-plant loss compared with the link budget

Typical project triggers

- New or repaired cable requires permanent joins
- Existing links fail, flap or lack baseline results
- A long route needs event-location evidence
- Owners need strand-level closeout for restoration



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Delivery and acceptance

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The final project scope identifies quantities, locations, dependencies, and the evidence required at each delivery stage.

01 Test plan

Define fibers, wavelengths, references, directions, launch/receive use and acceptance limits.

Acceptance evidence: Approved fiber test matrix and calculated loss budget

02 Prepare and splice

Identify strands, prepare fiber, fusion splice and organize protection in the assigned tray.

Acceptance evidence: Splice-machine results and tray/closure photos

03 Inspect and measure

Inspect/clean connectors, verify continuity and polarity, then run the specified tests.

Acceptance evidence: Connector inspection log, OLTS files and OTDR traces where scoped

04 Resolve and close

Compare results to budget, investigate exceptions and publish final strand records.

Acceptance evidence: Pass/exception summary, corrected retests and final splice schedule

Handover deliverables

- Splice and tray schedule
- Fusion-splice result export where available
- End-to-end insertion-loss files
- OTDR traces where specified
- Exception, retest and final acceptance summary

Closeout: GHT and the customer review the agreed evidence, record unresolved exceptions and owners, and confirm acceptance against the signed project scope.



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Planning and scope boundaries

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Customer and site inputs

- Fiber type, count, route and connector interface
- Calculated loss budget and acceptance limits
- Test wavelengths, directions and file format
- Closure, tray and splice-allocation plan
- Access, outage and restoration priority

Constraints and coordination

- Connector contamination and reference uncertainty
- Mixed fiber/backscatter characteristics in OTDR analysis
- Launch/receive access at both ends
- Live-service windows and strand identification

Commercial scope and responsibilities

This specification describes the service framework. The signed statement of work defines included equipment, quantities, software licenses, integrations, access windows, schedule, pricing, warranty, and support coverage. Additional construction, electrical work, recurring subscriptions, and ongoing support require an explicit line item.

The customer appoints an acceptance owner and provides authorized access, required site information, and decisions. GHT records assumptions, coordinates assigned work, and submits changes for agreement before expanding the scope.

Technical references

Fiber Optic Association — Fiber Optic Testing | Source review: 2026-08-20

Fiber Optic Association — Optical Time Domain Reflectometers | Source review: 2026-08-20

Fiber Optic Association — FOA-6a: Fiber Optic Cable Plants | Source review: 2026-08-20

Telecommunications Industry Association — TR-42 Telecommunications Cabling Systems | Source review: 2026-08-20

Service guide and project discussion | Source review: 2026-09-06