

## FIBRE OPTIC TERMINI

# M29504/14 & M29504/15

M29504/14 & /15 termini from Amphenol Fiber Systems International (AFSI) are qualified according to MIL-PRF-29504B specifications. This series of fibre optic termini offers optical and mechanical performance and is compatible with M28876 and similar military-style connectors.

AFSI's precision-engineered product differs from other M29504/14 & /15 designs by enabling the ferrule to securely press fit and bottom out in the terminus bodies. Tight tolerances eliminate loose fits or epoxy use, resulting in improved performance in challenging environments.

The M29504/15 uses a ceramic alignment sleeve for precise tolerances, accurate concentricity, and high mechanical and optical performance.

### Options Available

Fibre Systems provides a full range of termini insertion, extraction, and polishing tools compatible with NAVSEA specs. These work with AFSI and other brands' M29504/14 & /15 termini, covering extraction, insertion, alignment sleeve handling, and polishing puck tools.

### FEATURES

- Pre-radius zirconia ferrule tip provides optimal insertion loss performance.
- Laser marked TICC codes eliminate the need to decipher complex colour code bands.
- Precision ferrule alignment with captivated split zirconia sleeves
- Wide configuration selection.
- Superior optical performance.
- Custom sizes available. Commercial-Off-The-Shelf (COTS) only.
- Integrated environmental seal on each terminus.
- Precision "press fit" terminus design.
- Each terminus individually packaged and labeled for ease of identification, storage and use.

### CERTIFICATION

- Certification 504B QPL listed.

### APPLICATIONS

- Supports both multimode and singlemode fibre.
- Expanded beam technology is less susceptible to dust and debris.
- Monolithic insert design facilitates cleaning.
- Hermaphroditic design enables daisy-chaining of cable assemblies to support varying distances.
- Non-contacting interface allows thousands of mating cycles.



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## Specifications

| DESCRIPTION              | MEASUREMENT/DETAIL  |
|--------------------------|---|
| Back reflection          | <-40 dB – PC polish, <-55 dB – enhanced PC polish           |
| Insertion loss           | 0.45 dB typical (measured with 62.5/125 mm fibre @ 1310 nm) |
| Operating temperature    | -65°C to +150°C (dependent on epoxy and cable)              |
| Temperature cycling      | -62°C to +70°C per MIL-STD-1344, Method 1003C               |
| Temperature shock        | -54°C to +65°C per MIL-STD-1344, Method 1003                |
| Temperature life         | +110°C for 240 hours  |
| Vibration                | MIL-STD-1344, Method 2005, Condition II & VI                |
| Mechanical shock         | MIL-STD-901C, Grade A                                       |
| Mating durability        | 500 cycles per EIA-455-21                                   |
| Pressure sealing         | (wiper seal) 2,000 psi                                      |
| Terminus mating force    | 5 lb [22.2 N] nominal                                       |
| Terminus retention force | 22 lb [97.9 N]  |
| Cable retention force    | 25 lb [111.2 N] (dependent on cable construction)           |
| Weight                   | 1.0 grams, max  |
| Ozone exposure           | MIL-STD-1344, 1007  |
| Impact                   | MIL-STD-1344, Method 2015                                   |

## MATERIAL

- **Ferrules:** zirconia ceramic
- **Termini bodies:** stainless steel, passivated
- **Retention clips:** beryllium copper
- **Alignment sleeves:** ceramic core
- **Alignment sleeve hood:** beryllium copper
- **O-ring seal:** fluorosilicone

Fibre Systems specialises in fibre optic termination, offering standard and custom patch cord and pigtail assemblies with various connector types for both singlemode and multimode applications using qualified QPL cable.

## Fibre Systems full Interferometer testing capability

Interferometer testing is crucial for its high-precision, non-contact measurements of surface irregularities, optical components, and displacements, providing a full-area, nanometer-level accuracy. This method is vital in fields like optics, material science, and manufacturing for inspecting delicate surfaces without damage and improving quality control and efficiencies, Fibre Systems tests all Fibre Optic Termini and can provide full reporting capability.



### CONTACT:

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