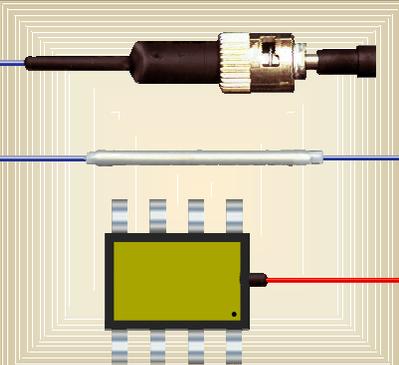


**FIBER OPTICS  
FIBER OPTIC ASSEMBLIES**

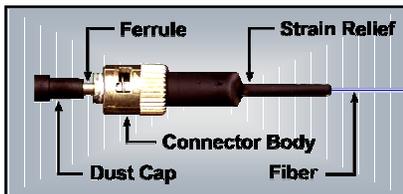


**FIBER OPTIC ASSEMBLIES**

Fiber optic assemblies include such devices as electro-optical components, star couplers, attenuators, repeaters, etc. The optical fibers in these devices consist of the coated fiber (core, cladding, coating), and differ from fiber optic cables, which are constructed with buffer layers, strength members, and an outer jacket.

Optical fiber offers size and weight savings over optical cable, but additional attention must be paid to the protection of the fiber.

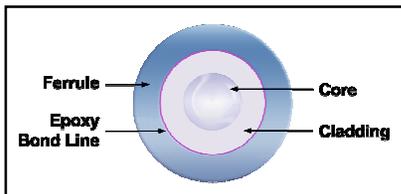
See Section 10.01 "Fiber Optics, General Requirements", for common accept / reject criteria.



**PREFERRED  
CONNECTOR / FIBER CONFIGURATION**

The connector is properly assembled, clean and damage-free. The connector and fiber strain-relief device(s) are properly installed, straight, tight, and damage-free.

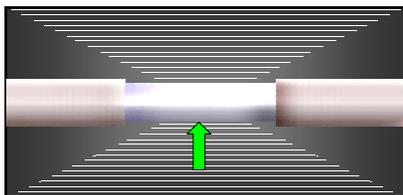
[NASA-STD-8739.5 \[ 11.3 \]](#)



**ACCEPTABLE  
ENDFACE**

The endface is clean and free from cracks, scratches, edge chips, hackles, pits, and other anomalies. The fiber is concentric in the ferrule, and the epoxy ring is even.

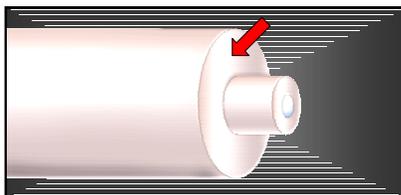
[NASA-STD-8739.5 \[ 11.3.1.c \]](#)



**ACCEPTABLE  
FUSION SPlice**

The splice is perfectly aligned. Fusion zone is of uniform diameter, with no bubbles, contamination, or boundary layer evident.

[NASA-STD-8739.5 \[ 9.2.2.a \]](#)



**UNACCEPTABLE  
BUFFER SHRINKAGE**

Shrinkage of the buffer shall be cause for rejection.

[NASA-STD-8739.5 \[ 11.5.3.d \]](#)

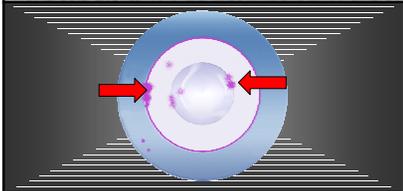
**NASA WORKMANSHIP STANDARDS**



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Book: 10	Section: 10.02	Page: 1

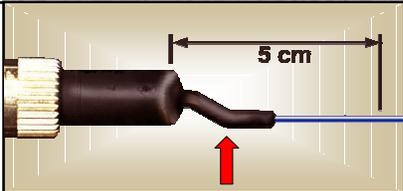
**FIBER OPTICS  
FIBER OPTIC ASSEMBLIES (cont.)**



**UNACCEPTABLE  
EPOXY**

Epoxy deposits on the core, cladding, or ferrule are rejectable. The deposits may be fixable by repolishing.

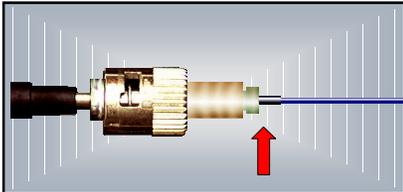
[NASA-STD-8739.5 \[ 10.2.7.e \]](#)



**UNACCEPTABLE  
IMPROPER FIBER ALIGNMENT**

Axial alignment of the fiber to the connector shall be maintained within 5 cm (2 in.) of the entry / exit from the connector body, to minimize stress on the termination and to minimize macrobend effects.

[Best Workmanship Practice](#)



**UNACCEPTABLE  
IMPROPER STRAIN RELIEF**

The strain relief shall be positioned and attached per engineering documentation. As depicted, the strain relief boot has not been installed.

[NASA-STD-8739.5 \[ 10.2.7.f \]](#)

<b>NASA WORKMANSHIP STANDARDS</b>				
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	Book: 10	Section: 10.02	Page: 2	