

# Souriau Optical Support Document



## Target

. Fiber Optic is pretty new on milaero markets (except for very few customers). That implies that most of the customers don't know exactly how to define what they need and can make mistakes in their technical choices because of «electrical» habits and/or lack of knowledges in fiber optic.

. The role of Souriau and of his fiber optic distributors is to advise these customers in order to create a win/win relationship.

. Here are all the informations that are required in order to answer in the best way possible the customer projects.

## Application environment

1 - Description of the place where the product will be installed (ex : civil aircraft, military shelter, lab, helicopter...):

2 - In a box equipment:

- Yes  
 No

3 - Standard (norm) to be conform to:

- Yes. Which one:  
 No

4 - Temperature range:

- 40°C to +85°C  
 -55°C to +125°C  
 other, to specify:

5 - Presence of vibrations:

- Yes. Level (if known):  
 No

6 - Sealing:

- No  
 Yes

options:  1.8 ± 0.1mm individual cables without backshell for the Elio contact.  
or:  other individual cables with backshell and protection tube over the cables.  
or:  constituted cable with backshell.

7 - Resistance of cable required:

a . Radius of curvature required (~mini = 10 x cable external diameter):

b . Specific fluid resistance:

- Yes. Which fluids:  
 No

c . Crush resistance:

- Yes. Value:  
 No

d . Cut resistance:

- Yes. Value:  
 No

e . Abrasion:

- Yes  
 No

f . Risks to pull on the cable:

- Yes. Maximum pulling force (value or at least > or < 10 daN):  
 No

g . LSZH cable:

- Yes  
 No

h . Reel needed:

- Yes
- No

i . Over protection on the cable:

- Yes. *What type:* \_\_\_\_\_
- No

j . Other, to specify: \_\_\_\_\_

**8 - Mating / unmating frequency:**

- Only during installation and maintenance
- Often manipulated (test rig, lab, ground application, ...)
- Other, to specify: \_\_\_\_\_

**9 - Installer skilled in fibre optic:**

- Yes
- No

**System information**

**10 - Type of standard fiber optic contacts of the existing equipment:**

- LC
- ST
- SC
- FC
- Other, to specify: \_\_\_\_\_

**11 - Number of ways to connect:** \_\_\_\_\_

**12 - Cable length:** \_\_\_\_\_

*for information, harness length tolerances:*  
 . from 0.3 to 1m: + 5cm/-0cm  
 . from 1 to 4m: + 10cm /-0cm  
 . from 4 to 15m: +20cm/-0cm  
 . longer: please ask

**13 - Fibre size:**

- 9/125  $\mu$ m
- 50/125  $\mu$ m
- 62.5/125  $\mu$ m
- Other, to specify: \_\_\_\_\_

**14 - Cable structure:**

- Constituted cable
- Individual single cable

**15 - Cable supplier:**

- Supplied by Souriau
- Supplied by customer

**Warning:** Souriau needs cable specification and sample to test the termination process.

**16 - Wave length:**

- 650 nm
- 850 nm
- 1300 nm
- 1310 nm
- 1500 nm
- 1550 nm

**Optical requirements**

**17 - Insertion losses permitted by optical budget (per connection):** \_\_\_\_\_

dB

**18 - Return loss (if necessary):** \_\_\_\_\_

Type of polishing:

- PC
- UPC
- APC

**19 - Cable attenuation allowed by optical budget:** \_\_\_\_\_

dB/km