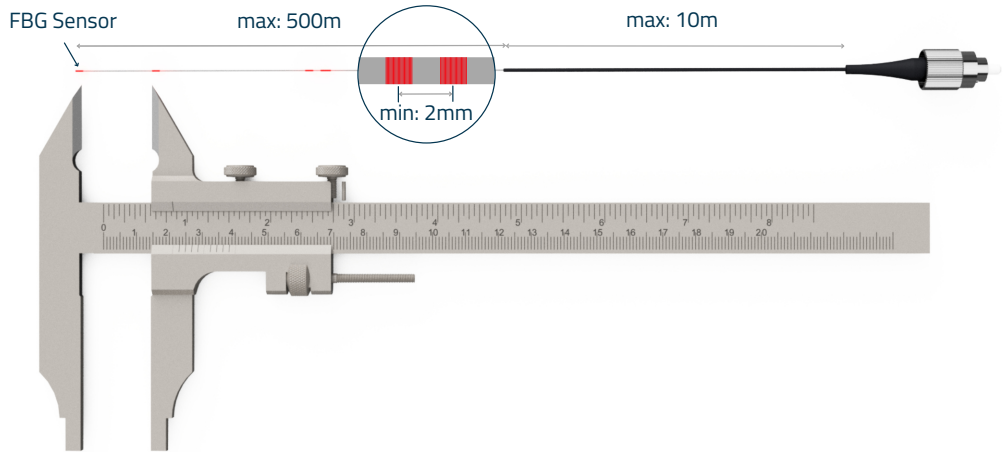


## Fiberoptic Rapid Prototyping

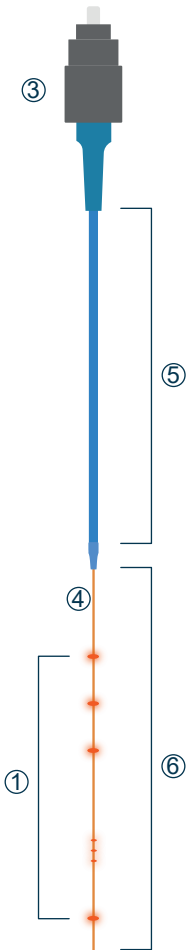
### Customized 1550nm FBG Arrays

Up to 200 FBG at arbitrary Positions

Position Tolerance: 0,3%/m



## A 1550nm FBG Order Part Number



② **FBG Quantity**

- 1 - 1 FBG
- 2 - 2 FBGs
- ...
- 50 - 50 FBGs

③ **Connector Type**

- NC - No connector
- FC - FC/APC
- LC - LC/APC
- HT - HT FC/APC

⑤ **Lead-in Protection**

- PK1 - PEEK 0.55mm
- PK2 - PEEK 0.95mm
- SST - SS Flexible Tubing
- HY - Hytrel Tubing
- LSZ - Standard Telecom

**UHS50 - 5 - FC - SC - PVC - FI**

① **Spectral FBG Configuration**

- STD1 - Standard R>25% Narrow
- STD2 - Standard R>25% Wide
- STD3 - Standard R>50% Narrow
- STD4 - Standard R>50% Wide
- STD5 - Standard R>75% Narrow
- STD6 - Standard R>75% Wide
- UHS25 - Ultra-High Strength R>25%
- UHS40 - Ultra-High Strength R>40%
- UHS50 - Ultra-High Strength R>50%
- SH25 - Short 1mm FBG R>25%
- SH50 - Short 1mm FBG R>50%

④ **Fiber Type**

- SC - Silica Core/PI
- BI - Bend-Insensitive/PI
- SMF - Corning SMF28 e+

⑥ **Sensor Capillary**

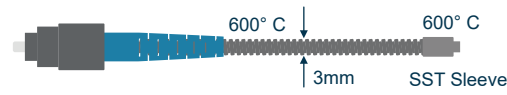
- FI - Bare Fiber
- PK1 - PEEK 0.55mm
- PK2 - PEEK 0.95mm
- SSC - SS Capillary
- SI - Silica Capillary
- HY - Hytrel Tubing
- AC - Alumina Ceramic

### ① FBG Properties

	Ref <sup>1</sup>	FWHM	Length	SLSR <sup>2</sup>	IL/PWDS <sup>3</sup>	Max FBG <sup>4</sup>	Max Strain	Max Temp
STD1	>25%	0,25-0,35nm	5-6mm	>15dB	++	30	>2,0%	600-900°C
STD2	>25%	0,4-0,6nm	3-4mm	>15dB	++	30	>2,0%	600-900°C
STD3	>50%	0,25-0,35nm	6-7mm	>15dB	+	30	>2,0%	600-900°C
STD4	>50%	0,4-0,6nm	3-4mm	>15dB	+	30	>2,0%	600-900°C
STD5	>75%	0,25-0,35nm	7-8mm	>15dB	+	25	>1,5%	600-900°C
STD6	>75%	0,4-0,6nm	4-5mm	>15dB	+	25	>1,5%	600-900°C
UHS25	>25%	0,3-0,45nm	3-5mm	>18dB	++++	200	>4,0%	350°C
UHS40	>40%	0,2-0,3nm	6-8mm	>18dB	++++	200	>4,0%	350°C
UHS50	>50%	0,15-0,25nm	7-10mm	>18dB	++++	200	>4,0%	350°C
SH25	>25%	1,2-1,8nm	1mm	>12dB	-	20	>1,5%	600-900°C
SH50	>50%	1,5-2,0nm	1mm	>12dB	-	10	>1,0%	600-900°C

(1) For the reflectivities of all FBG within the spectrum, the accumulated losses are taken into account  
 Reflectivity tolerances up to 20 FBG/array: -3% +25%; for >20 FBG/array: -5% + 25%  
 (2) Minimum SLSR >15-18dB; Typical SLSR >20dB  
 (3) For UHS25, UHS40 and UHS50: IL < 0.01dB (ascending WL order), PWDS < 5pm  
 (4) For >50 FBG/array dropouts possible: 1 of 50 FBG with relaxed tolerances Ref -15%; SLSR >12dB

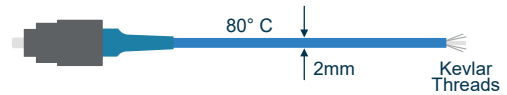
### ⑤ SST - Stainless Steel (1.4301) Corrugated Tube



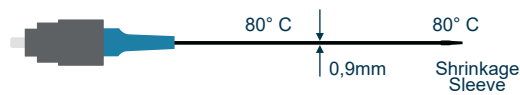
### PK1/2 - PEEK Tubing



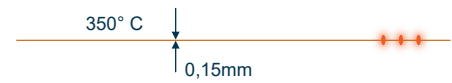
### LSZ - Low Smoke Zero Halogen



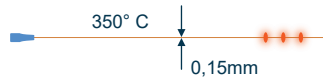
### HY - Hytrel Buffer



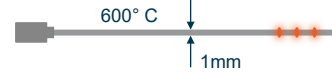
### NC/NL - No connector/No lead-in



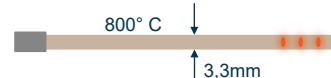
### ⑥ FI - Bare Fiber with Polyimide Coating



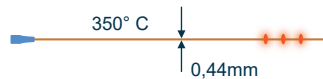
### SSC - Stainless Steel (1.4301) Capillary



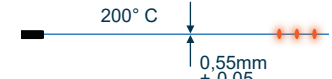
### AC - Alumina Ceramic



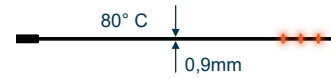
### SI - Silica Capillary



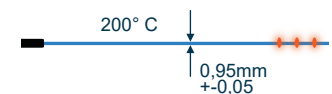
### PK1 - PEEK Tubing



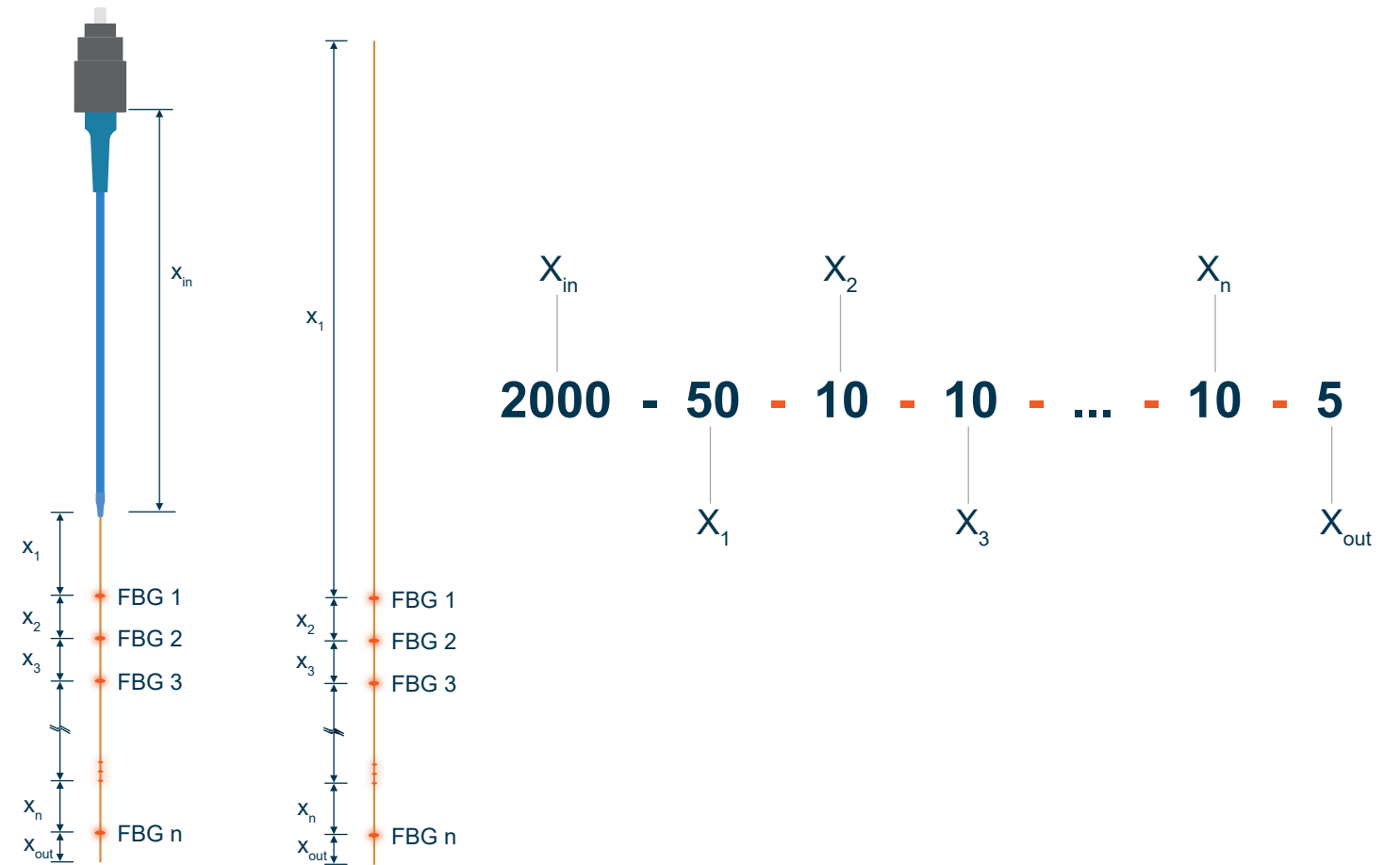
### HY - Hytrel Tubing



### PK2 - PEEK Tubing



## Ⓑ FBG Array Distance Code



## Ⓒ FBG Wavelength Code

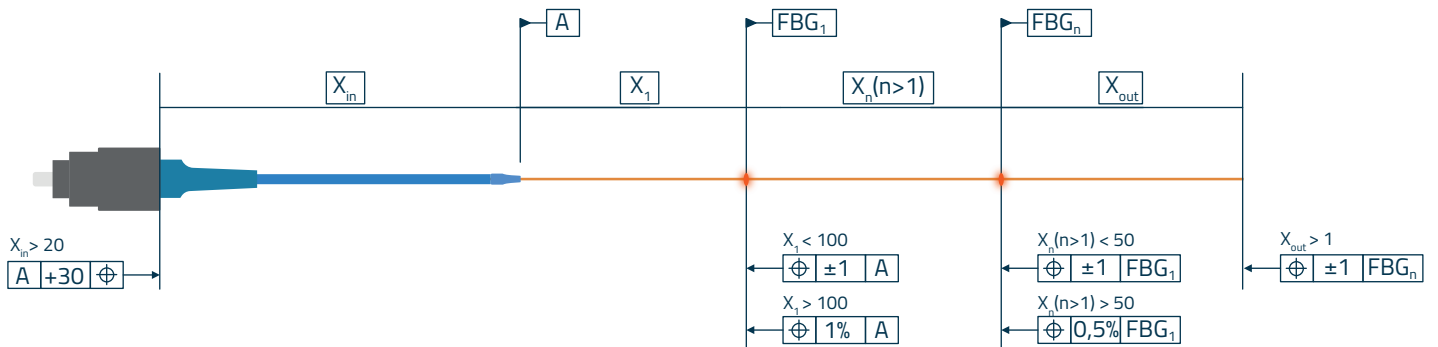
CWL Tolerance: 0,15nm CWL Range: 1480-1620nm



## Length/Bending Limitations

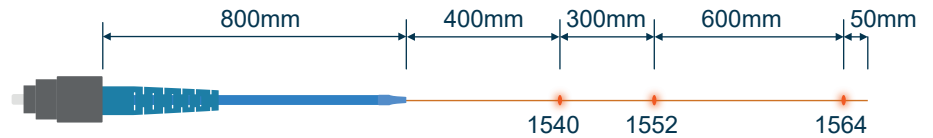
	4. Lead-in Protection					5. Sensor Capillary					
	SST	LSZ	PK1	PK2	HY	FI	SSC	SI	PK1	PK2	AC
<b>Crit. Bending Radius</b>	15mm	10mm	5mm	5mm	5mm	5mm	100mm	20mm	5mm	5mm	-
<b>Max length</b>	8m	5m	1m	3m	5m	500m	3m	2m	1m	3m	0,6m
<b>Min length</b>	0,5m	0,5m	20mm	20mm	20mm	20mm	100mm	50mm	20mm	20mm	100mm

## Length Tolerances (in mm)



## Exemplary Order Codes

A: STD5-3-FC-LSZ-FI  
 B: 800-400-300-600-50  
 C: 1540-1552-1564



## Exemplary Spectrum of UHS40 FBG Array

