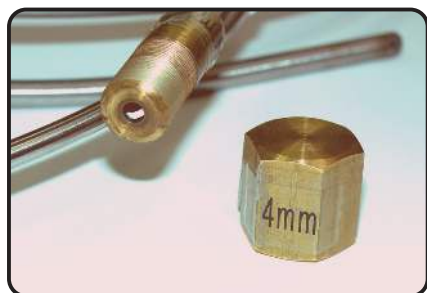


### Purpose:

The sterilization of long, narrow lumens is a traditional challenge to a sterilization system. This test was designed to determine the maximum length of varying diameter lumens that can be confidently sterilized using the standard 16 hour cycle of an Andersen EOGas Series 3 sterilizer. All lumens tested were closed at one end.

### Summary:

Five, 60" stainless steel lumens varying in diameter from 1 to 5 mm (id) were seeded with Biological spore strips and run through an Andersen EOGas Series 3 Sterilization cycle. At the end of the study the ends of the lumens were soldered closed to illustrate that the BI chambers were impervious to ethylene oxide (gas did not leak past the threaded seal on the BI chamber).



Brass chamber with spore strip

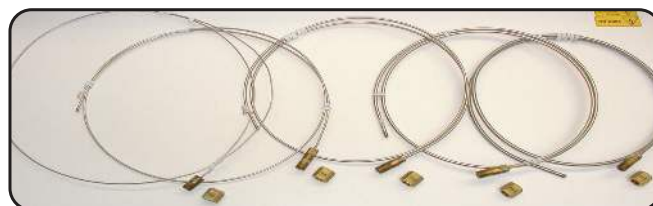
### Materials and Equipment:

1. Andersen EOGas Series 3 Sterilizer, Standard 16 Hour Cycle
2. 1 mm x 25 mm spore strip
3. Calibrated Incubator and related Bi Culture Equipment
4. AN-1006 EOGas Cartridge and AN-1006 EOGas Sterilization Bag
5. 5 Stainless steel metal helixes, with lumens ranging from 1 mm to 5 mm in diameter and various lengths
6. AN-1087 Humidichip
7. AN-1087 Dosimeter

### Procedure:

1. Record the length and diameter of the 5 lumens.
2. Seed the lumens with a BI
3. Run through an EOGas Series 3 cycle – Standard 16 Hour Cycle
  - a. Bag - EOGas #6
  - b. Humidichip
  - c. EOGas 1006 Cartridge
4. At the conclusion of the cycle transfer the BIs in the sterile transfer room and incubate for 7 days in a 37°C incubator.
5. If the BI result is positive cut the length of the lumen by 10% of the lumen length.

6. Repeat the process until the BI result for each lumen is negative.
7. Repeat final test until 3 successful cycles (with no failures) have been obtained for each of the 5 lumens at its maximum length.
8. When 3 successful cycles have been completed solder and seal the ends of the lumens.
9. Seed the sealed lumens and run through a sterilization cycle to ensure there is no leaking.



60 inch Lumens, 1-5 mm in diameter

**Table 1.** Length of Lumens.

Lumen Diameter (mm)	Length (inches)
1	60.5
2	61.0
3	61.0
4	61.4
5	61.0

**Table 2.** Sterilization Cycle Results of Lumens.

Lumen Dia. (mm)	BI Results per Cycle		
	1	2	3
1	Neg	Neg	Neg
2	Neg	Neg	Neg
3	Neg	Neg	Neg
4	Neg	Neg	Neg
5	Neg	Neg	Neg

**Table 3.** Sterilization Cycle Results of Sealed Lumens.

Lumen Diameter (mm)	BI Results
1	Positive
2	Positive
3	Positive
4	Positive
5	Positive

### Conclusion:

Andersen study, PR0810-06, indicates that the EOGas Series 3 Sterilization System's standard 16 hour cycle can be used effectively to sterilize 60" stainless steel lumens varying in diameters from 1 mm to 5 mm. Please note that for lumens that are open at both ends, the effective lumen length may be doubled (120").