FLOWLINX' SILICONE TUBING SOLUTIONS

# **FLOWLINX**<sup>°</sup> SILICONE TUBING SOLUTIONS

When a single drop of fluid can make the difference in someone's health, you need smart fluid handling solutions that get the job done safely. Manufacurers worldwide rely on connector products that improve yield, cut costs and reduce time to market.



#### TABLE OF CONTENTS

- Silicone Tubing Solutions | Page 2
- Product Overview | Page 3
- CCST Transfer Tubing | Page 4
- CCPG Pump Tubing | Page 5
- Braided Silicone Hose | Page 8



## **Silicone Tubing Solutions**

### FlowLinX<sup>®</sup> Silicone Tubing Solutions

Unlock processing excellence at every stage of your production with FlowLinX® silicone tubing solutions. Engineered for exceptional flexibility and durability, FlowLinX® silicone tubing solutions meet the strictest biocompatibility and regulatory requirements, have broad chemical resistance and are manufactured in ISO Class 7 cleanrooms.

#### **APPLICATIONS:**

- ☑ Cell Culture and Fermentation
- Media and Buffer Transfer
- ☑ Harvesting and Filtration
- ☑ Sterile Fluid Transfer
- ☑ Final Filling

#### Simplify Your Validation Process: One Resin for All

FlowLinX<sup>®</sup> silicone tubing solutions are manufactured using the same product contact resin for all products. Each tubing product is supported by a comprehensive validation package ensuring ease of implementation and use in your process. Request your package:

https://carolinaflow.com/contact/#request-quote



### **Purity You Can Count On**

With unrivaled quality, FlowLinX<sup>®</sup> silicone tubing solutions are animal component free, meet USP <85> and USP <788> and have low leachables.





## **Silicone Tubing Solutions**

PRODUCT OVERVIEW	CCST	CCPG	CCSB
Manufacturing Specifications			
ISO Class 7	Х	х	х
Laser Etching/Labelling	Х	Х	Х
Full Production Lot Traceability	Х	х	х
Post-cured		Х	
Material of Construction			
Platinum Cured Silicone, F-HCR-22520	Х	х	Х
Biocompatibility			
USP <85>, Bacterial Endotoxin	Х	х	х
USP <88>, Biological Reactivity Tests, Class VI, In Vivo	Х	х	Х
ISO 10993-4, Hemolysis	Х	х	Х
ISO 10993-5, Cytotoxicity	Х	х	Х
ISO 10993-10, Irritation and Sensitization	Х	х	х
ISO 10993-11, Systemic Toxicity	Х	х	х
Physiochemical			
USP <661>, Plastic Packaging Systems	Х	х	Х
EP 3.1.9, Plastic Packaging Systems and Materials of Construction	Х	х	Х
FDA 21 CFR 177.2600, Rubber Articles Intended for Repeated Use	Х	Х	Х
Broad Chemical Resistance	Х	х	Х
Particulate			
USP <788>, Particulate Matter in Injections	Х	х	Х
Extractables			
USP <665>	Х	х	х
Legislation			
REACH	Х	х	х
RoHS	Х	х	Х
Conflict Mineral	Х	х	х
Shelf Life			
10 Years, Non-Sterile/Non-Irradiated	Х	х	х
Other			
BSE/TSE Free	Х	х	х
Latex Free	Х	х	Х
Phthalate Free	Х	х	Х
BPA Free	Х	х	Х
Melamine Free	Х	х	Х
Nitrosamine Free	Х	Х	Х
High Pressure Performance (+ 100 psi)			Х
Excellent Pumpability		Х	
Sterilization Methods			
Gamma Irradiation	Х	х	Х
X-Ray	Х	х	Х
Autoclave	Х	х	Х

ATTRIBUTE	ASTM METHOD	VALUE
Durometer, Shore A	D2240	65
Specific Gravity	D412	1.16
Elongation at Break	D792	350%
Operating Temperature		-70C to 190C
UV Resistance		Excellent
Color/Transparency		Translucent





## **CCST Transfer Tubing**

### **CCST Transfer Tubing**

CCST unreinforced platinum silicone is ideal for transfer and short run pumping applications as an end-to-end process tubing.

ID	ID	OD	OD	WALL	WALL	BURST	BURST	COIL SIZE			
ID (INCH)	(MM)	(INCH)	OD (MM)	(INCH)	(MM)	PRESSURE (PSI)	PRESSURE (BAR)	50 FT (15 M)	100 FT (30 M)	SPOOL	
1/16"	1.6	1/8"	3.2	1/32"	0.8	126	8.7	CCST-0063-0125	CCST-0063-0125-C100	CCST-0063-0125-S2500	
1/16"	1.6	3/16"	4.8	1/16"	1.6	132	9.1	CCST-0063-0188	CCST-0063-0188-C100	CCST-0063-0188-S2000	
1/8"	3.2	1/4"	6.4	1/16"	1.6	110	7.6	CCST-0125-0250	CCST-0125-0250-C100	CCST-0125-0250-S1200	
1/8"	3.2	5/16"	8.0	3/32"	2.4	134	9.2	CCST-0125-0313	CCST-0125-0313-C100	CCST-0125-0313-S750	
1/8"	3.2	3/8"	9.6	1/8"	3.2	160	11	CCST-0125-0375	CCST-0125-0375-C100	CCST-0125-0375-S500	
3/16"	4.8	5/16"	8.0	1/16"	1.6	82	5.7	CCST-0188-0313	CCST-0188-0313-C100	CCST-0188-0313-S750	
3/16"	4.8	3/8"	9.6	3/32"	2.4	102	7.0	CCST-0188-0375	CCST-0188-0375-C100	CCST-0188-0375-S500	
3/16"	4.8	7/16"	11.1	1/8"	3.2	105	7.2	CCST-0188-0438	CCST-0188-0438-C100	CCST-0188-0438-S400	
1/4"	6.4	3/8"	9.6	1/16"	1.6	62	4.3	CCST-0250-0375	CCST-0250-0375-C100	CCST-0250-0375-S500	
1/4"	6.4	7/16"	11.1	3/32"	2.4	88	6.1	CCST-0250-0438	CCST-0250-0438-C100	CCST-0250-0438-S400	
1/4"	6.4	1/2"	12.7	1/8"	3.2	92	6.3	CCST-0250-0500	CCST-0250-0500-C100	CCST-0250-0500-S300	
5/16"	8.0	1/2"	12.7	3/32"	2.4	76	5.2	CCST-0313-0500	CCST-0313-0500-C100	CCST-0313-0500-S300	
5/16"	8.0	9/16"	14.3	1/8"	3.2	94	6.5	CCST-0313-0563	CCST-0313-0563-C100	CCST-0313-0563-S250	
3/8"	9.6	1/2"	12.7	1/16"	1.6	45	3.1	CCST-0375-0500	CCST-0375-0500-C100	CCST-0375-0500-S300	
3/8"	9.6	9/16"	14.3	3/32"	2.4	59	4.1	CCST-0375-0563	CCST-0375-0563-C100	CCST-0375-0563-S250	
3/8"	9.6	5/8"	15.9	1/8"	3.2	76	5.2	CCST-0375-0625	CCST-0375-0625-C100	CCST-0375-0625-S200	
1/2"	12.7	3/4"	19.0	1/8"	3.2	60	4.1	CCST-0500-0750	CCST-0500-0750-C100	CCST-0500-0750-S150	
5/8"	15.9	7/8"	22.2	1/8"	3.2	49	3.4	CCST-0625-0875	CCST-0625-0875-C100		
3/4"	19.0	1"	25.4	1/8"	3.2	46	3.2	CCST-0750-1000	CCST-0750-1000-C100		
3/4"	19.0	1.125"	28.6	3/16"	4.8	53	3.7	CCST-0750-1125	CCST-0750-1125-C100		
1"	25.4	1.375"	34.9	3/16"	4.8	50	3.4	CCST-1000-1375	CCST-1000-1375-C100		





## **CCPG Pump Tubing**

### The CCPG Advantage

CCPG is designed for the most critical applications where long pump life and high accuracy are required. Manufactured from platinum cured silicone, CCPG is post-cured to remove siloxanes and minimize potential leachables impact to your product process.



### **Engineered for Excellence**

**Resistance to Fatigue:** CCPG's molecular structure minimizes the development of micro-cracks and tears over time, maintaining consistent performance in your process.

**Durability and Flexibility:** CCPG maintains structural integrity and elasticity over extended use, particularly in peristaltic pump applications where tubing undergoes repeated compression and release.

**Chemical Inertness:** CCPG is post-cured, chemical inert and resistant to a wide range of chemicals. Its chemical resistance ensures the tubing does not degrade or chemically leach materials into your process, maintaining purity of the fluid path.

**High Quality Manufacturing:** CCPG is manufactured using high-precision techniques ensuring uniform wall thickness and material properties throughout. This consistency is critical for high performance and longevity in continuous pump applications.

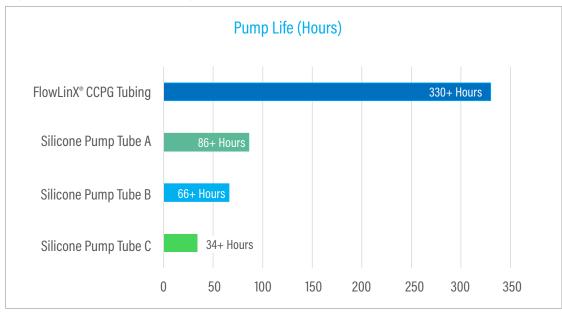




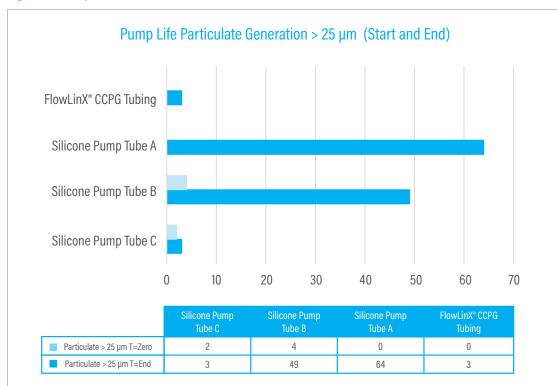
PRODUCT SPECIFICATIONS - FLOWLINX\* SILICONE TUBING SOLUTIONS

### **CCPG Pump Tubing**

#### Figure 1: Peristaltic Pump Tubing Life



Pump tubing life in hours for continuous service using MasterFlex L/S variable speed peristaltic pump and head. The pump operated at 400 rpm at 0 psi back pressure with room temperature (18 - 22C) and relative humidity between 32 to 45%.



#### **Figure 2: Pump Life Particulate Generation**

Each tubing type was tested for particulate > 25  $\mu$ m prior to pumping. Post pumping, particulate > 25 $\mu$ m was anaylzed from the fluid resevoir.



#### PRODUCT SPECIFICATIONS - FLOWLINX® SILICONE TUBING SOLUTIONS

## **CCPG Pump Tubing**

						TUBING	COILS	SIZE
ID (INCH)	ID (MM)	OD (INCH)	OD (MM)	WALL (INCH)	WALL (MM)	SIZE NUMBER	25 FT (7.5 M)	50 FT (15 M)
1/32"	0.8	5/32"	4	1/16"	1.6	13	CCPG-0032-0157-C25	CCPG-0032-0157
3/64"	1.2	11/64"	4.4	1/16"	1.6		CCPG-0047-0173-C25	CCPG-0047-0173
1/16"	1.6	3/16"	4.8	1/16"	1.6	14	CCPG-0063-0188-C25	CCPG-0063-0188
3/32"	2.4	7/32"	5.6	1/16"	1.6		CCPG-0094-0219-C25	CCPG-0094-0219
1/8"	3.2	1/4"	6.4	1/16"	1.6	16	CCPG-0125-0250-C25	CCPG-0125-0250
3/16"	4.8	5/16"	8	1/16"	1.6	25	CCPG-0188-0313-C25	CCPG-0188-0313
1/4"	6.4	3/8"	9.6	1/16"	1.6	17	CCPG-0250-0375-C25	CCPG-0250-0375
5/16"	8	7/16"	11.2	1/16"	1.6		CCPG-0313-0438-C25	CCPG-0313-0438
1/32"	0.8	7/32"	5.6	3/32"	2.4		CCPG-0032-0219-C25	CCPG-0032-0219
1/16"	1.6	1/4"	6.4	3/32"	2.4		CCPG-0063-0250-C25	CCPG-0063-0250
1/8"	3.2	5/16"	8	3/32"	2.4		CCPG-0125-0313-C25	CCPG-0125-0313
3/16"	4.8	3/8"	9.6	3/32"	2.4	15	CCPG-0188-0375-C25	CCPG-0188-0375
1/4"	6.4	7/16"	11.2	3/32"	2.4	24	CCPG-0250-0438-C25	CCPG-0250-0438
5/16"	8	1/2"	12.8	3/32"	2.4	35	CCPG-0313-0500-C25	CCPG-0313-0500
3/8"	9.6	9/16"	14.3	3/32"	2.4	36	CCPG-0375-0563-C25	CCPG-0375-0563
3/32"	2.4	11/32"	8.8	1/8"	3.2		CCPG-0094-0346-C25	CCPG-0094-0346
3/16"	4.8	7/16"	11.2	1/8"	3.2		CCPG-0188-0438-C25	CCPG-0188-0438
1/4"	6.4	1/2"	12.8	1/8"	3.2	26	CCPG-0250-0500-C25	CCPG-0250-0500
3/8"	9.6	5/8"	15.9	1/8"	3.2	73	CCPG-0375-0625-C25	CCPG-0375-0625
1/2"	12.8	3/4"	19	1/8"	3.2	82	CCPG-0500-0750-C25	CCPG-0500-0750
3/4"	19	1"	25.4	1/8"	3.2	90	CCPG-0750-1000-C25	CCPG-0750-1000
5/8"	15.9	7/8"	22.3	1/8"	3.2		CCPG-0625-0875-C25	CCPG-0625-0875
3/8"	9.6	3/4"	19	3/16"	4.8	70	CCPG-0375-0750-C25	CCPG-0375-0750
1/2"	12.8	7/8"	22.3	3/16"	4.8	88	CCPG-0500-0875-C25	CCPG-0500-0875
5/8"	15.9	1"	25.4	3/16"	4.8	89	CCPG-0625-1000-C25	CCPG-0625-1000
3/4"	19	1.125"	28.6	3/16"	4.8		CCPG-0750-1125-C25	CCPG-0750-1125
1"	25.4	1.375"	34.9	3/16"	4.8		CCPG-1000-1375-C25	CCPG-1000-1375



PRODUCT SPECIFICATIONS - FLOWLINX° SILICONE TUBING SOLUTIONS

## **Braided Silicone Hose**

#### **CCSB Braided Silicone Hose**

CCSB single braided reinforced silicone hose has great overall performance and excellent resistance to temperature, ozone and steam. Manufactured in an ISO 7 cleanroom, it's biocompatibility and low volatiles ensure suitability for biopharmaceutical, pharma and food applications. Made with polyester yarn inside the wall, CCSB provides elevated pressure ratings and are available in various coil lengths.



#### **CCSB BRAIDED SILICONE HOSE:**

						BURST	BURST	COIL SIZE		
ID (INCH)	ID (MM)	OD (INCH)	OD (MM)	WALL (INCH)	WALL (MM)	PRESSURE	PRESSURE BAR	25 FT (7.5 M)	50 FT (15 M)	100 FT (30 M)
1/8"	3.2	3/8"	9.6	1/8"	3.2	670	46.2	CCSBS-0125-C25	CCSBS-0125	CCSBS-0125-C100
3/16"	4.8	7/16"	11.1	1/8"	3.2	700	48.3	CCSBS-0188-C25	CCSBS-0188	CCSBS-0188-C100
1/4"	6.4	1/2"	12.7	1/8"	3.2	500	34.5	CCSBS-0250-C25	CCSBS-0250	CCSBS-0250-C100
3/8"	9.6	5/8"	15.9	1/8"	3.2	500	34.5	CCSBS-0375-C25	CCSBS-0375	CCSBS-0375-C100
1/2"	12.7	7/8"	22.2	3/16"	4.8	450	31	CCSBS-0500-C25	CCSBS-0500	CCSBS-0500-C100
5/8"	15.9	1"	25.4	3/16"	4.8	450	31	CCSBS-0625-C25	CCSBS-0625	CCSBS-0625-C100
3/4"	19.0	1.125"	28.6	3/16"	4.8	330	22.8	CCSBS-0750-C25	CCSBS-0750	
1"	25.4	1.405"	35.7	13/64"	5.1	250	17.2	CCSBS-1000-C25	CCSBS-1000	

