

Cleargreen[®]Pure

Tubing for Advanced Therapies

Setting a New Standard in PVC Tubing for
Blood Collection and Cell and Gene Therapy Processes



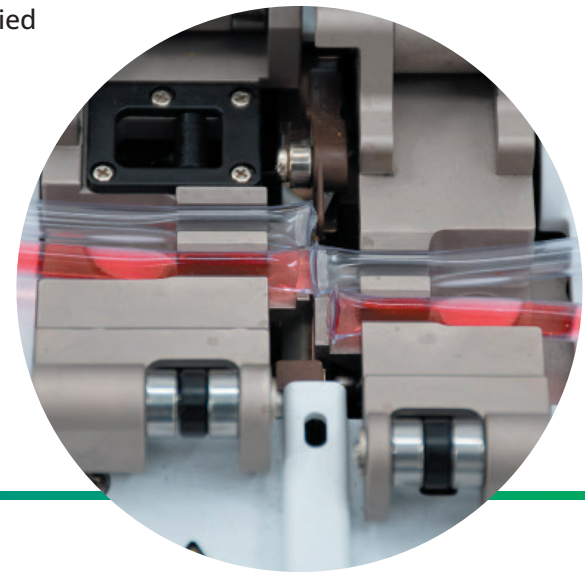
Cleargreen[®]Pure

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Cleargreen[®] Pure is a sustainable, plant derived vinyl material that is DEHP free, gamma stable, compatible with any aseptic welder or sealer. It has been extensively studied for its superior toxicological and physiochemical profile.

Cleargreen[®] Pure has been formulated specifically to advance the standard of vinyl (PVC) tubing used in Blood Collection and Cell and Gene Therapy processes. Vinyl remains the standard in these applications. Cleargreen[®]Pure addresses the need for a sustainable, plant derived material that is DEHP free, gamma stable and is compatible with aseptic welders and sealers. It has been extensively studied for its superior toxicological and physiochemical profile.

Compatible with aseptic welding
and sealing machines.



Why Choose Cleargreen® Pure

DEHP free

Given the sensitive nature of cell and gene therapies, minimizing exposure to DEHP is crucial. The risks associated with DEHP, including leaching, cellular interference, and potential toxicity, can significantly impact the efficacy and safety of these advanced therapies. Therefore, using Cleargreen® Pure and adhering to stringent regulatory standards are essential steps in ensuring the success and safety of cell and gene therapy treatments.

Animal Derived Ingredients Free (ADIF)

The use of animal-derived ingredients is common in many legacy, medical grade PVC compounds. For sensitive biologics this presents many significant risks, including immunogenicity, pathogen transmission, regulatory hurdles, ethical concerns, and consistency challenges. Mitigating these risks through plant derived use of Cleargreen® Pure, with its rigorous testing, and adherence to regulatory standards is crucial to ensuring the safety and efficacy of these advanced therapies.

Gamma stability

Many legacy medical grade PVC compounds have limited or no gamma stability. This presents practical and economic challenges. Cleargreen® Pure has been validated for gamma stability to an industry leading 45 kGy.

Rigorously studied

Many legacy medical grade PVC compounds do not meet the current testing standard for use in biological process environments. Cleargreen® Pure, set the bar for the qualification of use in the single use biological space with extensive studies for toxicity, physiochemistry, particle, gamma stability and aseptic weld compatibility.

Rigorous testing

Cleargreen® Pure has set a new benchmark for regulatory compliance within the medical grade PVC tubing market. The completion of our extensive USP test protocols ensure the highest standards of safety and performance. Cleargreen® Pure guarantees optimal functionality with industry-leading gamma stability and validated weld compatibility with a number of the third-party manufacturer (grades) used in the cell and gene therapy space.

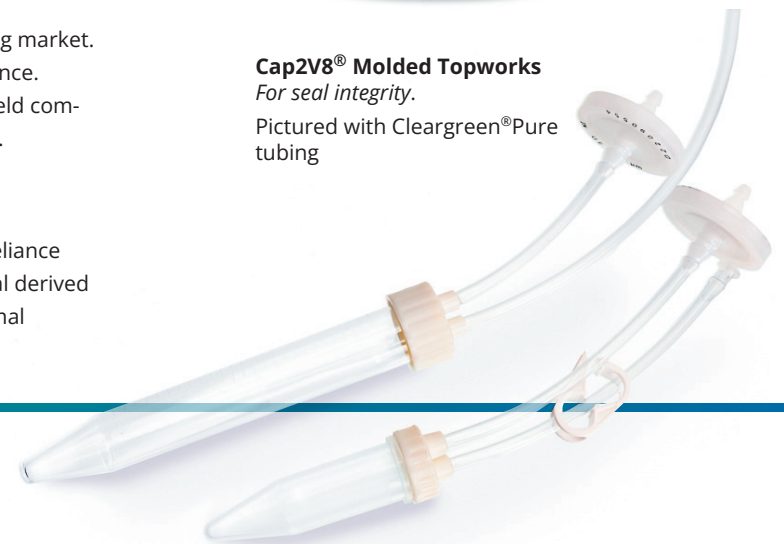
Sustainability

Cleargreen® Pure is a Plant-derived material. It offers substantial benefits for sustainability by reducing reliance on fossil fuels, lowering greenhouse gas emissions, and minimizing environmental pollution. Being animal derived ingredient free, Cleargreen® Pure also addresses ethical animal treatment concerns and potential of animal pathogen contaminants.



Cap2V8® Molded Topworks
For seal integrity.

Pictured with Cleargreen® Pure tubing



Cleargreen[®]Pure Tubing for Advanced Therapies

Features

Plant derived / Animal derivative free

DEHP free

Non-phthalate (TOTM plasticized)

BPA free

Gamma stable

Compatible with aseptic welding and sealing machines.

Crystal clear

Applications

Pharmaceutical Processing

Cell culture expression

Cell harvesting

Cell separation and washing

Media transfer

Medical Device

Blood collection

IV solutions

Chemotherapy drug delivery

Dialysis equipment

Minimally invasive devices

ASTM & ISO Properties

Physical	Nominal Value	Unit	Test Method
• Density / Specific gravity	1.8	g/cm ³	ASTM D792
Mechanical	Nominal Value	Unit	Test Method
• Tensile strength (100% Strain)	5.31	MPa	ASTM D638
• Tensile strength (break)	15.0	MPa	ASTM D638
• Tensile elongation (break)	410	%	ASTM D638
Mechanical	Nominal Value	Unit	
Durometer hardness			
• 15 sec. operating stand	65	Shore A	ASTM D2240
• 15 sec. hand held	70	Shore A	ASTM D2240

Sterilization

Gamma (<45 kGy)

E-beam

Ethylene oxide (ETO)

Compliance

Biocompatibility – USP Class VI <87>, <88>

Endotoxin – USP <85>

Hemocompatibility – ISO 10993-4

Material characterization – USP <661.1>

Particles - USP <788>

Weldability – Particle shedding / intrusion / tensile

EC, 1907 / 2006 (REACH)

Sizing Chart

Part Number	ID	OD	Standard Length (FT)	Working Pressure (psi)*	Vacuum Rating (hg)	Bend Radius (in)
CGP-032X062-100	1/32"	1/16"	100			
CGP-032X093-100	1/32"	3/32"	100			
CGP-062X125-100	1/16"	1/8"	100	55	29.5	0.250
CGP-093X156-100	3/32"	5/32"	100	40	29.5	0.375
CGP-118X161-100	.118"	.161"	100			
CGP-120X170-100	.120"	.170"	100"			
CGP-125X187-100	1/8"	3/16"	100	30	25	0.333
CGP-125X250-100	1/8"	1/4"	100	55	29.5	0.375
CGP-156X218-100	5/32"	7/32"	100	25	15	0.750
CGP-156X250-100	5/32"	1/4"	100			
CGP-187X312-50	3/16"	5/16"	50	40	29.5	0.625
CGP-187X375-50	3/16"	3/8"	50	55	29.5	0.125
CGP-187X437-50	3/16"	7/16"	50	70	29.5	0.750
CGP-250X375-50	1/4"	3/8"	50	30	25	1.000
CGP-250X437-50	1/4"	7/16"	50	45	29.5	0.750
CGP-250X500-50	1/4"	1/2"	50	55	29.5	0.625
CGP-312X437-50	5/16"	7/16"	50	25	15	1.375
CGP-375X500-50	3/8"	1/2"	50	20	10	1.750
CGP-375X562-50	3/8"	9/16"	50	30	25	1.375
CGP-375X625-50	3/8"	5/8"	.50"	40	29.5	1.125
CGP-500X625-50	1/2"	5/8"	50	18	6	2.875
CGP-500X687-50	1/2"	11/16"	50	25	15	2.125
CGP-500X750-50	1/2"	3/4"	50	30	25	1.750
CGP-500X1000-50	1/2"	1"	50			
CGP-562X750-50	9/16"	3/4"	50	20	10	2.500
CGP-625X875-50	5/8"	7/8"	50	25	15	2.375
CGP-625X1000-50	5/8"	1"	50			
CGP-750X1000-50	3/4"	1"	50	20	10	3.250
CGP-750X1062-50	3/4"	1-1/16"	50			
CGP-750X1125-50	3/4"	1-1/8"	50			
CGP-875X1125-50	7/8"	1-1/8"	50	20	8	4.125
CGP-1000X1125-50	1"	1-1/8"	50			
CGP-1000X1250-50	1"	1-1/4"	50	18	5	5.125

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Visit our **Cleargreen®Pure** page for more information.

Note: For missing values, please consult the factory.

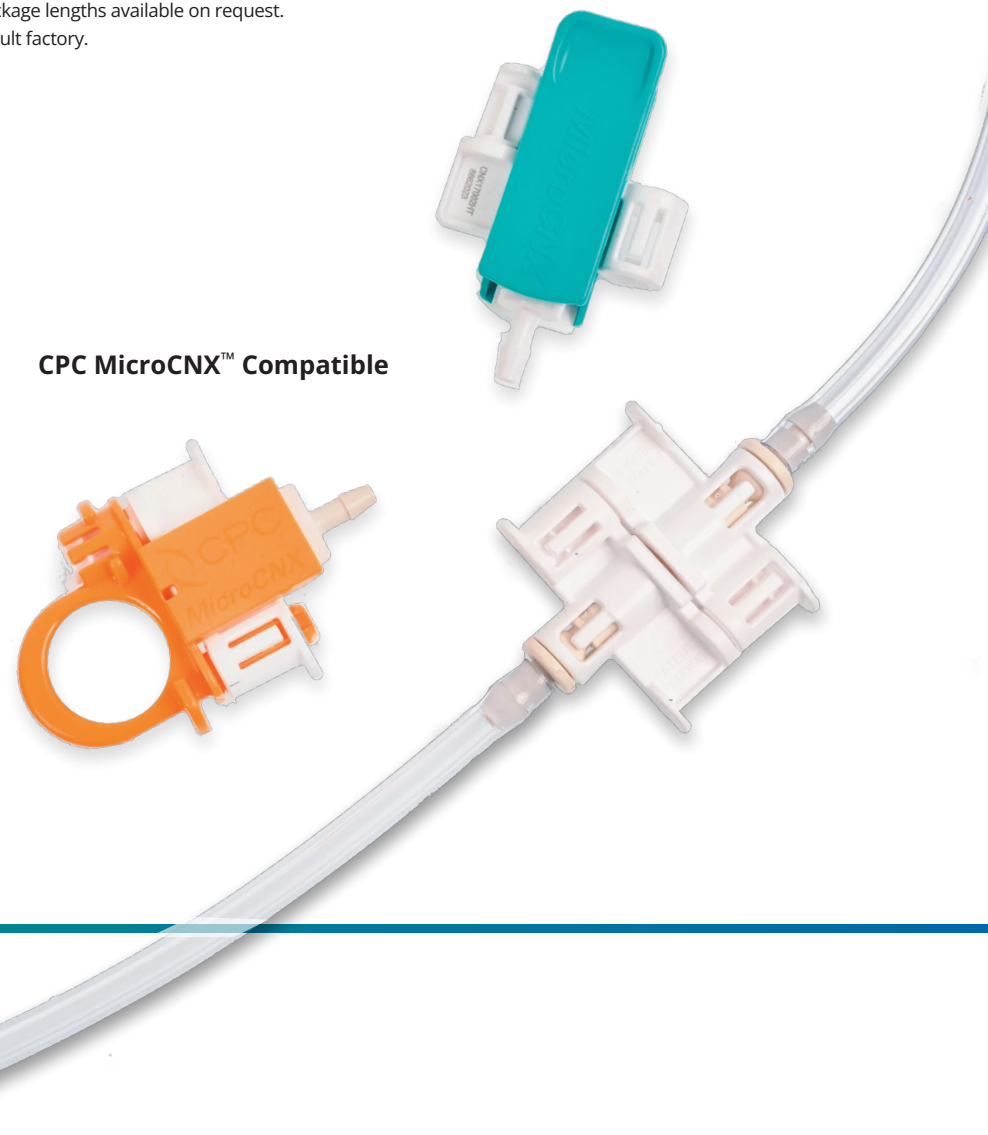
Notes

*Safety factor of 5:1 ratio of burst pressure to working pressure.

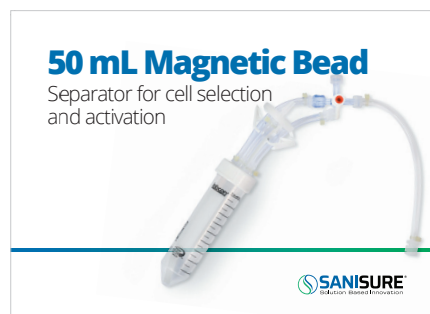
Custom package lengths available on request.

Please consult factory.

CPC MicroCNX™ Compatible



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