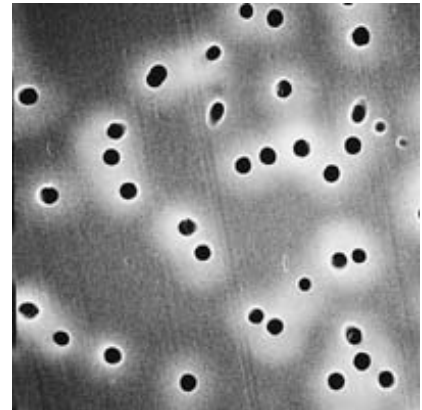


POLYCARBONATE (PCTE) MEMBRANE

PCTE (Polycarbonate) membrane is made from a thin, microporous polycarbonate film material. It is ideally suited for use in blood assays and high-purity and general filtration applications.

FEATURES AND BENEFITS

- Absolute pore size and density
- Smooth, thin, glass-like surface
- Superior strength
- Low extractables
- Low protein binding
- Negligible absorption/adsorption
- Available as hydrophilic or hydrophobic



PCTE (Polycarbonate) Membrane

APPLICATIONS

- General filtration
- Removal of red blood cells from plasma
- Flow control of reagents through assay
- Precise filtration and prefiltration

PRECISE PORE SIZE AND DENSITY

Sterlitech PCTE membrane is produced through a two-step, proprietary manufacturing process that employs high quality standards. This unique process allows for increased control over pore size and density to ensure the physical properties of each membrane precisely fit your specifications.

In the first step, thin polycarbonate film is exposed to collimated, charged particles from a nuclear pile. As these particles pass through the polycarbonate material, they leave sensitized tracks. In the second, step the polymer tracks are dissolved with an etching solution to form cylindrical pores. Varying the temperature and strength of the etching solution, and the exposure time to it, produces precisely controlled pore sizes.

The resulting membrane is a thin, translucent and microporous polycarbonate film with a smooth, flat surface. All particles larger than the pore size are captured on its surface. It is ideal for use when collecting samples for blood assays or for high-purity and general filtration.

For More Information:

Call Sterlitech Corporation at (877) 544-4420 or (253) 437-0844,

Or visit www.sterlitech.com

PRODUCT CHARACTERISTICS

Sterilization.....Gamma Irradiation or Ethylene Oxide (EtO)
 USP Class VI Testing.....Passed
 Extractables.....Very Low
 BSA Protein Binding.....<5 ug/cm²
 Max. Operating Temp.....140°C (284°F)
 Sealing Compatibility.....Ultrasonic, Heat, Radio Frequency & Insert Molding
 Pore Size Range.....0.01 to 20 um

NOMINAL PRODUCT CHARACTERISTICS

Thickness.....5 – 12 um
 Variation of Thickness w/in Same Pack.....+/-5%
 Refractive Indices.....Birefringent at 1.584 & 1.625
 Nominal Tare Weight.....1.0 mg/cm²
 Water Adsorption(%wt. gain 24/hr immersion)..0.24%
 Residual Ash Weight Average.....0.92 ug/cm²
 Specific Gravity.....0.94 – 0.97
 Autoclavable.....Yes
 Leachables.....Negligible
 Wetting Characteristics.....Hydrophilic or Hydrophobic
 Wetting Agent (hydrophilic).....Polyvinylpyrrolidone (PVP)
 Burst Strength Minimum.....0.7 bar (10 psi)
 Migration of Filter Media.....0
 Optical Properties.....Semi-translucent

PERFORMANCE CHARACTERISTICS

Pore Size (a) (um)	Pore Density (b) (pores/cm ²)	Nominal Weight (mg/cm ²)	Nominal Thickness (c) (um)	Minimum Bubble Point (d) (psi)	Typical Flow Rates	
					Water (e) (mL/min/cm ²)	Air (L/min/cm ²)
20	4 x 10 ⁴	1.1	3	<1	1000	11 (g)
14	5 x 10 ⁴	0.6	6	0.2	1400	63.5 (g)
12	1 x 10 ⁵	0.9	8	0.4	1250	63.5 (g)
10	1 x 10 ⁵	1.1	10	0.5	1150	34.5 (g)
8	1 x 10 ⁵	0.8	7	0.7	1000	30 (g)
5	4 x 10 ⁵	1.1	10	1.2	700	30 (g)
3	2 x 10 ⁶	0.9	9	2	440	37.5 (g)
2	2 x 10 ⁶	1.1	10	3	300	16.5 (f)
1	2 x 10 ⁷	1.1	11	6	130	20 (f)
0.8	3 x 10 ⁷	0.9	9	7	90	18 (f)
0.6	3 x 10 ⁷	1.0	9	9	60	7.5 (f)
0.4	1 x 10 ⁸	1.0	10	12	33	7.5 (f)
0.2	3 x 10 ⁸	1.1	10	20	10	3 (f)
0.1	4 x 10 ⁸	0.7	6	30	2.5	1.5 (f)
0.08	4 x 10 ⁸	0.7	6	38	0.6	0.75 (f)
0.05	6 x 10 ⁸	0.7	6	50	0.4	0.37 (f)
0.03	6 x 10 ⁸	0.7	6	NA	0.2	0.075 (f)
0.01	6 x 10 ⁸	0.7	6	NA	1	0.0075 (f)

- a. Tolerance + 0% -20%
- b. Tolerance +/-15%
- c. Tolerance +/-10%
- d. Measured using isopropanol (IPA)

- e. Initial flow rates using prefiltered water at 10 psid (0.7 kg/cm²)
- f. Initial flow rates using prefiltered air at 10 psid (0.7 kg/cm²)
- g. Initial flow rates using prefiltered air at 5 psi (0.35 kg/cm²)

For more information, please visit the [PCTE membrane section](#) at www.sterlitech.com or email us at sales@sterlitech.com.

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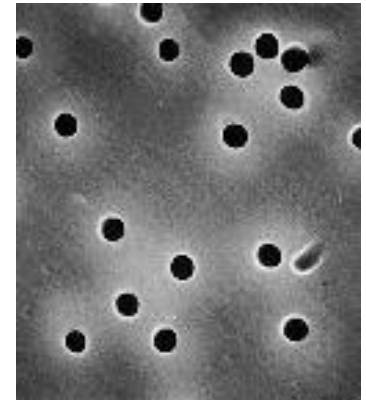


POLYESTER (PETE) MEMBRANE

Sterlitech PETE Polyester Membranes are made from a thin, microporous, hydrophilic polyester material film with a high degree of solvent resistance. It is ideal for use in blood assays or general filtration where chemically aggressive solvents may be used.

FEATURES AND BENEFITS

- Available as hydrophilic
- High range of chemical compatibility
- Smooth, thin, glass-like surface
- Precise pore size and density
- Low extractables
- Low protein binding
- Negligible absorption/adsorption



PETE (Polyester) Membrane

APPLICATIONS

- General filtration
- Removal of red blood cells from plasma
- Flow control of reagents through assay
- Precise filtration and prefiltration

PRODUCT UNIFORMITY AND HIGH SENSITIVITY MAXIMUM PERFORMANCE

Sterlitech Polyester membrane is produced through a two-step proprietary manufacturing process that employs high quality standards throughout production. This unique process allows for increased control over pore size and pore density to ensure the physical properties of each membrane precisely fit customer specifications.

In the first step, thin polyester film is exposed to collimated, charged particles from a nuclear reactor. As these particles pass through the polyester material, they leave sensitized tracks. In the second step, the polymer tracks are dissolved with an etching solution to form cylindrical pores. Varying the temperature and strength of the etching solution, and the exposure time to it, produces precisely controlled pore sizes.

The resulting membrane is a thin, translucent, microporous polyester film with a smooth, flat surface containing pores of controlled diameter and number. The membrane has better solvent resistance than polycarbonate and captures all particles smaller than the precisely controlled pore size on its

For more information:

Call Sterlitech Corporation at (877) 544-4420 or (253) 437-0844

Or visit www.sterlitech.com

surface. Sterlitech PETE is ideal for use when analyzing blood samples or particle analysis by microscopy.

PRODUCT CHARACTERISTICS

Sterilization.....Gamma Irradiation or Ethylene Oxide (EtO)
 USP Class VI Testing.....Passed
 Thickness.....5 – 12 μm
 Extractables.....Very Low
 BSA Protein Binding.....<5 $\mu\text{g}/\text{cm}^2$
 Max. Operating Temp.....140°C (284°F)
 Sealing Compatibility.....Ultrasonic, Heat, Radio Frequency & Insert Molding
 Pore Size Range.....0.1 to 14 μm

NOMINAL PRODUCT CHARACTERISTICS

Thickness.....5 – 12 μm
 Variation of Thickness w/in Same Pack.....+/-5%
 Nominal Tare Weight.....1.0 mg/cm^2
 Water Adsorption (%wt. gain 24-hour immersion)...0.24%
 Residual Ash Weight Average.....0.92 $\mu\text{g}/\text{cm}^2$
 Specific Gravity.....0.94-0.97
 Autoclavable.....Yes
 Leachables.....Negligible
 Wetting Characteristics.....Naturally Hydrophilic
 Burst Strength Minimum.....0.7 bar (10 psi)
 Migration of Filter Media.....0
 Optical Properties.....Semi-translucent

PERFORMANCE CHARACTERISTICS

Pore Size (a) (μm)	Pore Density (b) (pores/ cm^2)	Nominal Weight (mg/ cm^2)	Nominal Thickness (c) (μm)	Minimum Bubble Point (d) (psi)	Minimum Flow Rates	
					Water (e) (mL/min/ cm^2)	Air (L/min/ cm^2)
10	1×10^5	1.3	9	0.5	1150	34.5 (g)
8	1×10^5	1.0	7	0.7	1000	30 (g)
5	4×10^5	1.3	10	1.2	700	30 (g)
3	2×10^6	1.1	9	2	440	37.5 (g)
2	2×10^6	1.3	10	3	300	16.5 (f)
1	2×10^7	1.3	11	6	130	20 (f)
0.8	3×10^7	1.1	9	7	90	18 (f)
0.6	3×10^7	1.2	9	9	60	7.5 (f)
0.4	1×10^8	1.2	10	12	33	7.5 (f)
0.2	3×10^8	1.3	10	20	10	3 (f)
0.1	4×10^8	0.8	6	30	2.5	1.5 (f)

- a. Tolerance + 0%, -20%
- b. Tolerance +/-15%
- c. Tolerance +/-10%
- d. Measured using Isopropanol (IPA)

- e. Initial flow rates using prefiltered water at 10 psid (0.7 kg/cm^2)
- f. Initial flow rates using prefiltered air at 10 psid (0.7 kg/cm^2)
- g. Initial flow rates using prefiltered air at 5 psi (0.35 kg/cm^2)

For more information, please visit the [PETE membrane section](http://www.sterlitech.com) at www.sterlitech.com or email us at sales@sterlitech.com.

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Sterlitech Static Eliminator

Neutralize static charges on membrane filters with one brief pass over this ionizing static eliminator. Simplifies membrane handling and eliminates attraction for foreign particulates. It can also be used inside the balance pan chamber of precision balances to prevent static-induced errors in critical gravimetric measurements.



Sterlitech Static Eliminator

Contains Polonium 210 which emits alpha particles that neutralize the negative charges picked up from free electrons. The device can be safely handled since the alpha particles will not pass through the epidermis. Distributed in accordance with the General Licensing provisions of the U.S. Nuclear Regulatory Commission. No specific licenses are required.

Each unit is stamped with the date of manufacture and is effective for from one to two years.

Features and Benefits

- Reduces static on PCTE (Polycarbonate) and PETE (Polyester) membranes
- Neutralizes static charges with one pass
- Eliminates attractions for foreign particulates

Specifications

Materials:

Polonium 210 encased in stainless steel housing

Dimensions:

3" long x 15/16" wide x 9/32" thick

Strength:

500 microcuries

For More Information:

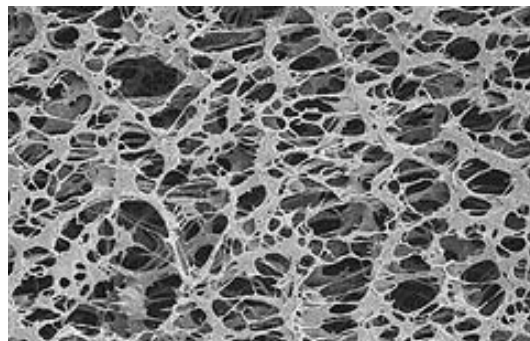
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POLYETHERSULFONE (PES) MEMBRANE

PES (Polyethersulfone) membrane is hydrophilic and constructed from pure polyethersulfone polymer membrane. It is designed to remove particulates during general filtration and its low protein and drug binding characteristics make it ideally suited for use in life science applications.



PES (Polyethersulfone) Membrane

FEATURES AND BENEFITS

- Very low protein binding
- Fast flow rates
- Low extractables
- Wide chemical compatibility range
- Strength and dimension stability
- Autoclavable

APPLICATIONS

- Bacterial removal
- Blood glucose testing
- Drug filtration
- I.V. filters
- Lateral flow assays
- Particulate removal
- Serum cholesterol testing

PRODUCT UNIFORMITY AND HIGH SENSITIVITY MAXIMIZE PERFORMANCE

Sterlitech PES membrane is produced through a proprietary manufacturing process that employs high-quality standards throughout every step of production. This level of quality generates lot-to-lot consistency and product uniformity that results in reliable flow rates, particle retention and fluid purification.

For More Information:

Call Sterlitech Corporation at (877) 544-4420 or (253) 437-0844,

Or visit www.sterlitech.com

This strong, microporous film membrane is constructed from a high-temperature polyethersulfone polymer that is acid and base resistant. Its strength and durability are advantageous during usage that involves aggressive handling or automated equipment. Sterlitech PES membrane is naturally hydrophilic without added wetting agents and has low extractables. It is available with large pore sizes and high capillary flow rates suitable for lateral flow devices.

Due to its inherent uniform porosity and controlled pore size, Sterlitech PES membrane efficiently removes particulates from solutions during general filtration. Additionally, its low protein and drug binding characteristics maximize recovery of critical drugs used in I.V. therapy, chemotherapy and open-heart surgery.

PRODUCT CHARACTERISTICS

Sterilization.....Gamma Irradiation, Ethylene
Oxide (EtO), Autoclaving or Live Steam

Endotoxin levels and
Class VI toxicity.....Passed

Thickness.....110 – 150 μm

Extractables.....<2% (<0.015 mg/c m^2)

BSA Protein Binding.....<20 $\mu\text{g}/\text{cm}^2$

Maximum Operating Temp.....130°C (266°F)

Sealing Compatibility.....Ultrasonic, Heat,
Radio Frequency and Insert Molding

Pore Size Range.....0.03 to 20.0 μm

PERFORMANCE CHARACTERISTICS

Pore Size	0.03 μm	0.1 μm	0.22 μm	0.45 μm	0.6 μm	0.8 μm	1.2 μm	5.0 μm	10.0 μm	20.0 μm
Minimum Bubble Point, psi (kg/cm $_2$)	90 (6.33)	70 (4.92)	50 (3.51)	35 (2.46)	21 (1.48)	13 (0.91)	11 (0.77)	6 (0.42)	4 (0.28)	1 (0.07)
Typical Flow Rate, mL/min/cm 2 @10psi (0.7 kg/cm 2)	5.5 (0.39)	11.7 (0.82)	33.2 (2.33)	58.2 (4.09)	95.5 (6.71)	117 (8.23)	143 (10.1)	186 (13.1)	645 (45.3)	1260 (88.6)

For more information, please visit the [PES membrane section](#) at www.sterlitech.com or email us at sales@sterlitech.com.

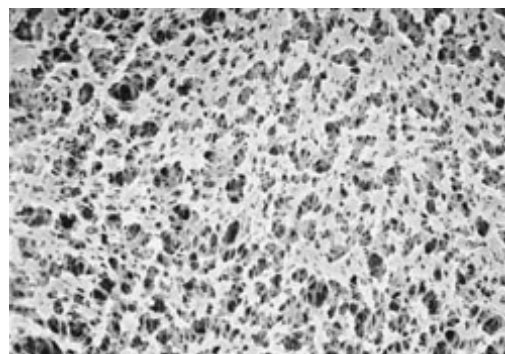
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POLYPROPYLENE MEMBRANE FILTERS AND PRE-FILTERS

POLYPROPYLENE MEMBRANE FILTERS

Sterlitech polypropylene membrane filters are composed of pure polypropylene with absolute pore size ratings. These filters offer broad chemical compatibility allowing its use with aqueous and organic solvent samples.

The polypropylene filter has extremely low extractable levels designed to provide accurate, consistent analysis results for sensitive ion chromatography applications while prolonging column life. Sterlitech polypropylene filter is the preferred filter membrane for HPLC applications where the detection levels are below 230 nm.



Polypropylene Membrane Filters

The filters also exhibit negligible protein binding which, is essential for maximum sample recovery of critical, small volume protein samples. Sterlitech filters are available in 0.1, 0.22 and 0.45-micron pore sizes in a wide range of disc diameters.

FEATURES AND BENEFITS

- Broad Chemical Compatibility
- Hydrophobic
- HPLC applications – detection levels < 230nm

APPLICATIONS

- Aqueous and organic solvent filtration
- HPLC sample preparation requiring low detection levels
- Ion chromatography
- Total digest for heavy metals

For More Information:

Call Sterlitech Corporation at (877) 544-4420 or (253) 437-0844,

Or visit www.sterlitech.com

POLYPROPYLENE PRE-FILTERS

These pre-filters consist of polypropylene fibers and have a lower fiber release, more defined pore size and greater retention efficiency than glass fiber filters.

Chemically and biologically inert, Sterlitech polypropylene pre-filters are recommended for pre-filtering acids, aqueous and most solvent solutions. They are also used as a final filter for noncritical filtrations to reduce costs.



Polypropylene Pre-filter

Polypropylene pre-filters are available in 0.2, 0.45 and 1.2 micron nominal pore sizes.

Features and Benefits:

- Chemically and biologically inert
- Low fiber release
- More defined pore size and greater retention efficiency than glass pre-filters

Applications:

- Pre-filtering solvents and acids
- Pre-filter to extend final filter life
- Final filter for noncritical filtrations

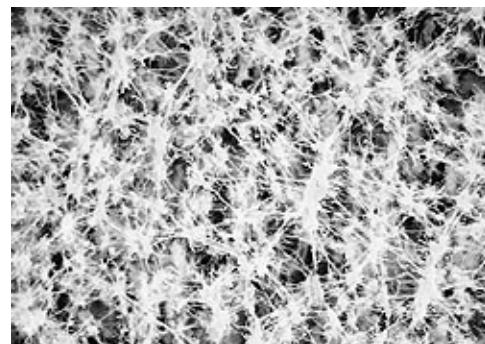
For more information, please visit the [Polypropylene Membrane Filters](#) and [Polypropylene Pre-filters section](#) at www.sterlitech.com or email us at sales@sterlitech.com.

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TEFLON® LAMINATED AND UNLAMINATED FILTER MEMBRANES

PTFE LAMINATED FILTER MEMBRANES

Sterlitech Laminated Teflon® membrane consists of a pure PTFE laminated to a polypropylene support for improved durability and easy handling.



PTFE (Teflon®) Membrane Filters

These filters are chemically compatible with strong acids and most aggressive solvents such as alcohols.

Laminated PTFE filters can also be used to filter aqueous solutions when prewetted with methanol. They are autoclavable up to 130°C (260°F) 175 µm thick.

Available in cut disc form in 0.22, 0.45, and 1.0 micron absolute pore sizes.

FEATURES AND BENEFITS

- Naturally hydrophobic
- Compatible with strong acids and aggressive solutions
- Improved durability and handling

APPLICATIONS

- Filtration of strong acids and aggressive solutions
- Venting applications
- Phase separations
- Aerosol samplings

For More Information:

Call Sterlitech Corporation at (877) 544-4420 or (253) 437-0844

Or visit www.sterlitech.com.

PTFE UNLAMINATED FILTER MEMBRANES

Sterlitech Unlaminated Teflon® membrane consists of a pure PTFE tortuous pore structure. The larger pore sizes are thicker for easy handling. The filters are chemically and biologically inert, stable up to 260°C (500°F) and will withstand most concentrated acids and bases.

The unlaminated filters are compatible with strong acids, aggressive solvents and high temperatures, which can soften the polypropylene support of laminated Sterlitech PTFE. These filters are ideal for applications requiring stringent temperatures or chemicals without adding particulates to the filtrate.

In addition, since Sterlitech PTFE membrane filters are naturally hydrophobic, they are very useful for aerosol sampling, air venting, and gas filtration, especially in environments also containing water vapor. For filtering aqueous solutions, PTFE requires pre-wetting with alcohol to establish flow with reasonable pressure differentials.

Available in cut disc form, in 0.22, 5.0, and 10 micron absolute pore sizes.

Thickness:

0.22 µm is 50 µm thick

5.0 µm and 10.0 µm are 250 µm thick

FEATURES AND BENEFITS

- Naturally highly hydrophobic
- Compatible with high temperatures, strong acids and aggressive solutions
- Chemically and biologically inert
- Superior chemical resistance
- USP XXI Class VI approved
- Can withstand high temperatures

APPLICATIONS

- Filtration of strong acids and aggressive solutions
- Venting applications
- Phase separations
- Aerosol samplings
- High temperatures

For more information, please visit the [PTFE \(Teflon®\) Membrane Filters section](http://www.sterlitech.com) at www.sterlitech.com or email us at sales@sterlitech.com.

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MICROBIOLOGY SUPPLIES

- *Membrane Filters:* MCE and Cellulose Acetate
- *Grid lines:* Contrasting grid lines facilitate counting colonies on the filter surface
- *Sterile single packs:* Membranes are available individually wrapped for optimum sterility
- *Excellent Sensitivity:* All membranes are tested for uniform wetting, freedom from grid line inhibition and optimal color reactions
- *Membrane certification:* Sterlitech membranes were developed and are manufactured to comply with the provisions of the National Interim Primary Drinking Water Regulations, Guidelines for Establishing Test Procedures for the Analysis of Pollutants, Standard Methods for the Examination of Water and Wastewater and the ASTM



APPLICATIONS

- Microbiological analysis of water, wastewater, pharmaceuticals, and beverages
- Coliform
- Fecal Streptococci
- Serratia Marcescens

WHITE MIXED CELLULOSE ESTER (MCE)

- Available in white, green, and black
- Gridded or non-gridded
- Individual pack, pre-sterilized
- Standard for microbiological analysis of water, waste water, and beverages

For More Information:

Call Sterlitech Corporation at (877) 544-4420 or (253) 437-0844

Or visit www.sterlitech.com

CELLULOSE ACETATE

- White
- Non-gridded
- Individual sterile pack
- Lower protein binding (relative to MCE)
- Improved solvent resistance to low molecular weight alcohols (relative to MCE)
- Application: May enhance recovery of fastidious gram positive organisms in culture

PETRI DISHES

- Polystyrene dishes suitable for culturing microorganism on 47 mm diameter membrane filters
- Convenient: Snug fit prevents drying during incubation. Squared edges and raised ridge for ease of handling and secure stacking
- Sterile: Sterilized by gamma irradiation
- Standard sizing: 50 x 11 mm polystyrene dishes fit all commercially available aluminum block incubators
- Available with or without pad: 47mm absorbent cellulose pad (0.85 +/- 0.17 mm thick absorbs 1.8 - 2.2 ml liquid)
- Manufacturer's certification of compliance available upon request

PRESTERILIZED ABSORBENT PADS

- Cellulose pads: 47 mm plain white circles fit into standard petri dishes
- Routinely tested for absorption of 1.8 – 2.2 ml of Endo medium, pH neutral
- Convenient packaging: 100 individual presterilized packages per box

CULTURE MEDIA

- Used with membrane filters to culture bacteria, yeasts, and molds
- Available Ready-to-Use: 2 ml ampoules contain enough medium to saturate one standard absorbent pad in a petri dish
- Vials contain enough for 25 tests
- Sterile: Single use vials assure sterility
- High Quality: Each product is lot tested and certified to comply with established test criteria. Quality certificates are included with each shipment, and packages are clearly marked with expiration date

For more information, please visit the [Microbiological Supplies](http://www.sterlitech.com), visit our website at www.sterlitech.com or email us at sales@sterlitech.com.

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