



Manufacturer of High-Performance Fluoropolymer Films,
Laminates, and Composites

PTFE FLEXIBLE DUCTING

The flexible ducting solutions engineered for cleanrooms, chemical processing, and demanding industrial environments.



**FM 4910
Specified Material**



**Flame &
Smoke Rated**



**100% PTFE
Duct Wall**



Zero Porosity

textilesc coated.com

**The most certified PTFE
solutions in the market**

COMPANY OVERVIEW

Textiles Coated International (TCI) has been a global leader in high-performance fluoropolymer films, laminates, and composite materials since 1985.

For four decades, TCI has built its reputation on engineering materials that perform reliably in the most demanding chemical and thermal environments. From extreme heat to aggressive chemicals, TCI solutions are trusted across industries where durability, purity, and consistency are non-negotiable.

Operating from two advanced manufacturing facilities with more than 180,000 square feet of production space, TCI integrates customized coating, lamination, fabrication, film processing, mixing, maintenance, research and development, and laboratory testing. Supported by over 300 skilled employees and an around-the-clock manufacturing schedule, TCI delivers high-quality products with short lead times and exceptional customer support.



TCI's Flexible Ducting solutions are PTFE flexible duct systems designed for the most demanding cleanroom, semiconductor, pharmaceutical, chemical processing, and industrial ventilation applications. Every product in the TCI Flexible Ducting portfolio is built using the company's CrossFilm™ laminate technology — an award-winning 100% PTFE material with a cross-laminated structure that delivers superior tear resistance, zero porosity, and unmatched chemical inertness.

Our CrossFilm™ laminate operates continuously at temperatures up to 600°F (316°C), is FDA, 3-A, and EC compliant for food contact, and has been independently tested and approved by FM Approvals — making TCI Flexible Ducting the most certified PTFE flexible duct solutions in the marketplace.

Learn more and explore our full product portfolio
textilescoted.com

TCI FLEXIBLE DUCTING BENEFITS

ALL OUR PRODUCTS SHARE EXCEPTIONAL BENEFITS FOR YOUR OPERATIONS:



High Temperature

Operates continuously at temperatures up to 600°F (316°C) – ideal for extreme-heat processing environments.



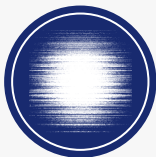
Chemical Resistance

PTFE construction resists virtually all acids, bases, solvents, and aggressive process chemicals – including chlorine applications.



Zero Porosity

CrossFilm™ laminate material remains non-porous even after repeated flexing, unlike fiberglass-reinforced alternatives that degrade over time.



Static Dissipative

Optional electrically-conductive surface material prevents the build-up of static charge, critical in semiconductor and electronic environments.



Easy Installation

Flexible design installs quickly in continuous runs, handles multiple bends without complex layout calculations, reducing labor hours and installation time.



Customizable

Available in custom conductivity levels, thickness, colors, texture, abrasion-resistance, and PTFE logos to match your exact application requirements.

CERTIFICATIONS & COMPLIANCE

TCI FLEXIBLE DUCTING PRODUCTS HOLD SOME OF THE MOST RIGOROUS CERTIFICATIONS IN THE INDUSTRY, GIVING YOU CONFIDENCE IN EVERY INSTALLATION.



FM 4910 Examination Standard for Cleanroom Materials

TCI CrossFilm™ PTFE has been Specification Tested to FM 4910 (Cleanroom Materials Standard, November 2020) by FM Approvals. Testing included 8 ft. Parallel Panel Testing (conducted successfully), Infrared Spectra (FTIR), and full compliance with FM Approvals marking and surveillance audit requirements. Project No. PR463339, tested October 2023. Listed in the FM Approval Guide. Applies to all TCI flexible ducting products manufactured with CrossFilm™ material.



FM 4923 Approved for Fume Exhaust Duct Systems

Chemduit® PTFE Flexible Duct holds full FM Approval under Class 4923 for Fume Exhaust Duct Systems – Approval Identification PR466724, granted 21 May 2024. Chemduit® is the ONLY flexible ductwork to hold this FM 4923 Approval, making it the premier choice for fume exhaust applications in semiconductor fabs, chemical plants, and cleanrooms.

Verify approval status at www.approvalguide.com.

ADDITIONAL COMPLIANCE STANDARDS



ASTM E84
Surface Burning
Characteristics



UBC 8-1
Fire Test for Ducts



UL 723
Surface Burning



NFPA 318
Semiconductor Fab
Cleanrooms



FDA / 3-A / EC
Food Contact Compliance



UL-94 V-0
Flammability Rating

EXPLORE TCI FLEXIBLE DUCTING RANGE

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1DUCT™

1duct™ is an PTFE flexible duct with a wear-resistant metal coil, suitable for all applications. 1duct™ is extremely flexible with a 6 to 1 compression ratio and a small bend radius. It is unaffected by UV exposure and chemical resistant.



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CHEMDUIT®

Chemduit® is an PTFE flexible duct with an encapsulated metal coil and smooth inner wall. Chemduit® can be used in any environment.



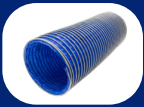
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TFE DUCT™

TFE Duct™ is an PTFE flexible ducting product with PTFE support rings for use in any chemical environment. The entire duct contains no metal, eliminating chemical compatibility concerns.



PRODUCT COMPARISON

Specification	1duct™ 	Chemduit® 	TFE Duct™ 
Temperature Range	-425°F to 600°F (-254°C to 316°C)		
Max Positive Pressure	181" w.c. (3" dia.) 20" w.c. (12" dia.)	Light to moderate positive and negative pressure	
Chemical Resistance	Moderate–Excellent (PTFE surface)	Excellent (any chemical environment)	Superior (100% PTFE incl. rings)
Flexibility	Extreme flexibility, 6:1 compression ratio	Extreme flexibility	Good flexibility, crush-proof
Construction	Wear-resistant metal coil (galvanized or stainless)	Encapsulated stainless steel metal coil, smooth inner wall	PTFE support rings – no metal
Compliance / Fire Rating	ASTM E84, UBC 8-1, UL 723, NFPA 318		
Min Bend Radius	1.74" (3" dia.) to 8.14" (12" dia.)	Small bend radius (smooth wall design)	Larger radius – ring-supported
FM Certifications	FM 4910 Specified Materials	FM 4910 Specified materials FM 4923 Approved (Fume Exhaust Duct Systems)	FM 4910 Specified Materials
Metal Content	Contains galvanized or stainless steel outer crimped metal strip and internal encapsulated wire	Contains stainless steel support helix fully encapsulated	Zero metal – PTFE construction
Static Control Option	Static-dissipative surface available		
Best Suited Applications	General purpose cleanroom, fire-rated applications	Cleanrooms, semiconductor, fume exhaust, pharma	Chlor-alkali, cleanrooms, chlorine service
Diameter Range	3" - 12"	1.5" - 24"	3" - 24"
Length Offering	Maximum continuous length 25ft	Maximum continuous length 10ft	Maximum continuous length 10ft

PTFE FLEXIBLE DUCT WITH WEAR-RESISTANT METAL COIL — FOR ALL APPLICATIONS



1duct™ is TCI's PTFE flexible ducting product for any environment.

Built using the award-winning CrossFilm™ laminate technology, 1duct™ features a wear-resistant galvanized or stainless metal coil exterior, providing extreme flexibility with a 6 to 1 compression ratio and a small bend radius.

With a maximum temperature range of 600°F (316°C), 1duct™ can be used in wet or dry application, regardless of chemical exposure.

It is unaffected by UV exposure, will not grow fungus, and maintains zero porosity even after repeated flexing — unlike fiberglass-reinforced alternatives that become porous over time.

KEY FEATURES & ADVANTAGES



**FM 4910 Specified
Material**



**Flame &
Smoke Rated**



**Complies with ASTM
E84, UBC 8-1,
UL 723, NFPA 318**

- Corrosion-free wire option with all PTFE laminate duct wall
- Upper temperature limit: 600°F (316°C)
- Zero-porosity material
- Extreme flexibility
- Lower permeation than coated products
- Used in negative & positive pressure applications
- Can include a static-dissipative surface
- 6 to 1 compression ratio

CONNECTION OPTIONS



Coupler with Bridge Clamp Connection

MARKET APPLICATIONS

- ✓ Clean Rooms
- ✓ Chemical Plants
- ✓ Food Plants
- ✓ Fume Exhaust Systems
- ✓ High Temperature Environments
- ✓ Pharmaceutical Production
- ✓ Fume Control
- ✓ Pollution Control

TECHNICAL SPECIFICATIONS



Pressure ratings assume an ambient temperature of 70°F (21.1°C).
Bending radius measured to the inner side of the elbow.

Diameter (in)	Positive Pressure(in w.c.)	Negative Pressure(in w.c.)	Bending Radius(in)	Weight(lbs/ft)
3	181	52	1.74	0.42
4	118	31	2.35	0.43
5	81	19	2.91	0.5
6	62	13	3.49	0.57
7	48	10	4.11	0.72
8	38	7	4.65	0.78
9	31	5	6.19	0.94
10	27	4	6.79	1
11	23	3	7.56	1.22
12	20	3	8.14	1.36

MATERIAL PROPERTIES



Property	Value
Material	Duct wall is 100% PTFE CrossFilm™ Laminate
Coil Material	Galvanized or Stainless Steel
Max Continuous Use	600°F (316°C)
Compression Ratio	6 to 1
Porosity	Zero-porosity
UV Resistance	Unaffected by UV exposure
Connection Method	Bridge Clamp
Flammability Rating	Flame & Smoke Rated
FM Listing	FM 4910 Specified Materials
Fire Standards Compliance	ASTM E84, UBC 8-1, UL 723, NFPA 318
Customization Options	Colors, thickness, texture, static-dissipative surface, PTFE logos

PTFE FLEXIBLE DUCT WITH ENCAPSULATED METAL COIL & SMOOTH INNER WALL – FOR ANY CHEMICAL ENVIRONMENT



Chemduit® is TCI's flagship PTFE flexible ducting product, uniquely engineered with a smooth inner wall and an encapsulated metal coil for superior fume containment and contamination prevention.

Chemduit® is the ONLY flexible ductwork in the marketplace that holds FM 4923 Approval for Fume Exhaust Duct Systems.

With a maximum temperature range of -425°F to 600°F (-254°C to 316°C), Chemduit can be used in any wet or dry application regardless of chemical exposure, covering all semiconductor configurations.

The smooth walls prevent contaminant build-up and make for easy cleaning. Each section is available in continuous lengths up to 10 feet, and sections can be factory-spliced to make longer lengths, reducing the need for rigid ducting.

KEY FEATURES & ADVANTAGES



**FM 4910 Specified
Material**



FM 4923 Approved



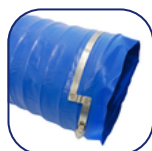
**Flame &
Smoke Rated**



**Complies with ASTM
E84, UBC 8-1,
UL 723, NFPA 318**

- Corrosion-free, PTFE laminate, inner and outer duct surface
- Zero-porosity material
- Upper temperature limit: 600°F (316°C)
- Can include a static-dissipative surface
- Stainless steel wire-reinforced
- Available with factory installed cuffs and flanges for custom end connections
- Sections can be factory-spliced to form longer lengths
- Customizable: colors, thickness, texture, PTFE logos

CONNECTION OPTIONS



**Coupler with Bridge
Clamp Connection**



**Factory-Installed Cuff with
Coupler and Hose Clamp**



**Factory-Installed Bolt Flange
(to matching Bolt Flange)**



**Factory-Installed Flange, Heat-
Sealed to Matching Flange**

MARKET APPLICATIONS

- ✓ Semiconductor Cleanrooms
- ✓ Food Processing Plants
- ✓ Microelectronics Manufacturing
- ✓ Fume Exhaust Systems
- ✓ Chemical Plants
- ✓ High Temperature Environments
- ✓ Pharmaceutical Facilities
- ✓ Pollution Control Systems

Available in continuous lengths up to 10 feet.
Sections can be connected to form extended duct runs.

GENERAL SPECIFICATIONS

Property	Value
Material	100% PTFE CrossFilm™ Laminate – inner and outer duct wall layers
Coil Type	Encapsulated Stainless Steel Metal Coil
Max Continuous Use	600°F (316°C)
Minimum Temperature	-425°F (-254°C)
Inner Wall	Smooth – prevents contamination build-up
Porosity	Zero-porosity
Pressure Applications	Light negative and positive pressure
Section Length	Up to 10 feet per section
UV Resistance	Unaffected by UV exposure
Fungal Resistance	Will not grow fungus
Connection Method	Bridge clamp, cuffs, flanges (multiple options)
Flammability Rating	Flame & Smoke Rated
FM Approval	FM 4910 Specified; FM 4923 Approved (Fume Exhaust Duct Systems)
Fire Standards Compliance	ASTM E84, UBC 8-1, UL 723, NFPA 318
Reinforcement (Semiconductor)	Stainless steel wire-reinforced
Customization Options	Colors, thickness, texture, static-dissipative surface, PTFE logos

Chemduit® is the ONLY flexible ductwork that holds FM 4923 Approval for Fume Exhaust Duct Systems – FM Approval ID: PR466724, granted 21 May 2024.

PTFE FLEXIBLE DUCT WITH PTFE SUPPORT RINGS — CONTAINS NO METAL



TFE Duct™ is TCI's fully metal-free flexible ducting solution.

With PTFE support rings replacing the metal coil found in other products, TFE Duct™ eliminates all chemical compatibility concerns — making it the ideal choice for the most aggressive chemical environments, including chlorine and chlor-alkali applications.

Since the entire duct — including support rings — contains only PTFE, there are no metal components to corrode.

TFE Duct™ can even be used in chlorine applications where permeation of the chlorine molecule typically corrodes the metal support coils found in common flexible ducting products.

Wear-resistant external rings protect the inner shell, while the zero-porosity CrossFilm™ laminate ensures long-lasting, leak-free performance.

KEY FEATURES & ADVANTAGES



**FM 4910 Specified
Material**



100% PTFE Construction



**Flame & Smoke
Rated**



**Complies with ASTM
E84, UBC 8-1,
UL 723, NFPA 318**

- PTFE support rings eliminate corrosion risk
- Excellent for chlorine and chlor-alkali applications
- Upper temperature limit: 600°F (316°C)
- Good flexibility and crush-proof design
- Zero-porosity material
- Wear-resistant external rings protect inner shell
- Higher excursion temperature than dip-coated PTFE
- Can include a static-dissipative surface

CONNECTION OPTIONS



Band Clamp Connection

Other optional connections include factory installed cuffs and flanges

MARKET APPLICATIONS

- ✓ Chlor-Alkali Plants
- ✓ Chlorine Applications
- ✓ Chemical Plants
- ✓ Clean Rooms
- ✓ Pharmaceutical Facilities
- ✓ Fume Exhaust Systems
- ✓ High-Purity Environments
- ✓ Pollution Control

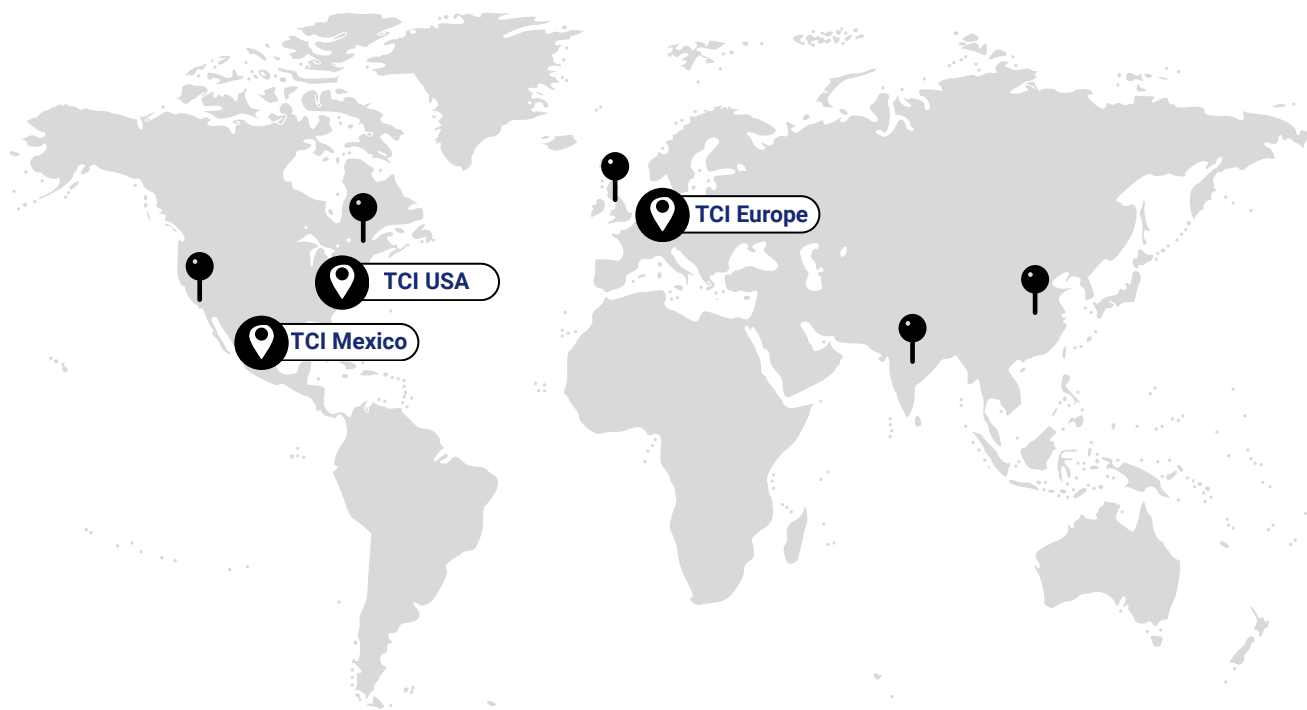
TFE Duct™ is the ONLY PTFE flexible duct where even the support rings are PTFE — ensuring complete chemical compatibility in even the most aggressive environments.

GENERAL SPECIFICATIONS

Property	Value
Material	100% PTFE CrossFilm™ Laminate
Support Rings	PTFE (no metal – fully metal-free)
Connection Method	Band clamp, cuffs, and flanges
Max Continuous Use Temperature	600°F (316°C)
Flexibility	Good flexibility – crush-proof design
External Protection	Wear-resistant PTFE support rings protect inner shell
Porosity	Zero-porosity material
Pressure Applications	Light negative and positive pressure
UV Resistance	Unaffected by UV exposure
Fungal Resistance	Will not grow fungus
Chemical Compatibility	100% – no metal components to corrode
Specialty Applications	Excellent for chlorine and chlor-alkali applications
Flammability Rating	Flame & Smoke Rated
FM Listing	FM 4910 Specified Materials
Fire Standards Compliance	ASTM E84, UBC 8-1, UL 723, NFPA 318
Static Dissipative Option	Available – prevents static charge build-up
Customization Options	Colors, thickness, texture, PTFE logos



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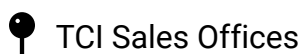
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