TOTAKU
NAGASE Group

TOTAKU FLUORO Hoses

Inner Surface: Fluororesin

Founded in 1952, TOTAKU INDUSTRIES, INC. has been a pioneer in the pipes and hose industry, creating the world's first flexible hose. Driven by our core principle of prioritizing customer satisfaction through exceptional quality, we continuously innovate to meet the evolving needs of our customers. At TOTAKU, we are dedicated to making a positive impact on the world by developing unique, thoughtful products that address modern challenges.

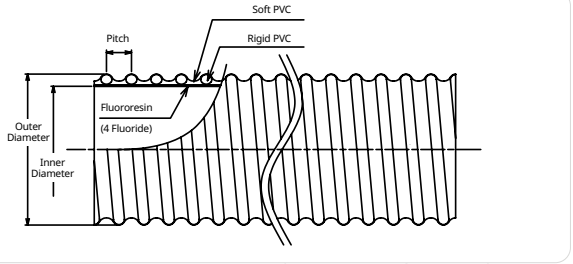
Featured Products

Notice:

- The data in this catalog uses values in a straight hose configuration.
- The permissible pressure is not the maximum operating pressure. Please refer to the "Operating Pressure Design Table" in the hose handling precautions and configure according to the operating pressure (normal working pressure). Also, please note that the combination of fittings and clamps, operating temperature, and bending conditions may affect performance.

TOTAKU FLUORO-A

Part Number - 23120- 050



TOTAKU FLUORO-A with Grounding Wire

Part Number - 23121- 050

Note: This product is made to order. Please contact us for more information.

Features

- Outstanding resistance to chemicals due to the low reactivity of PTFE resin.
- Fluids have low adhesion to the surface, which provides excellent water-repellent properties for effortless cleaning.
- Designed for safe and easy connections.
- Low leaching minimizes liquid alteration, making it ideal for transporting chemicals.
- Lightweight, constructed entirely from resin.

Applications

- Suitable for both suction and delivery applications.
- Transportation of chemical products.
- Transportation of paints.

Cautions

- Not suitable for medical or pharmaceutical applications. Therefore, safety for such uses cannot be guaranteed.
- Not suitable for transporting powders or granules.
- Hot water washing should be done under the following conditions: temperature under 176°F (80°C), pressure below 14.5 psi (0.1 MPa), and pressurization time limited to 3 minutes or less.

Standard Dimensions and Properties

Nominal Diameter		Inner Diameter		Outer Diameter		Pitch		Reference Weight		Allowable Pressure *(at room temperature)*		Allowable Bend Radius *(to the center axis of the hose)*	
inch	mm	inch	mm	inch	mm	inch	mm	lbs/ft	g/m	psi	MPa	inch	mm
2	50	2.00	50.8	2.39	60.6	0.39	10.0	0.52 (0.53)*	780 (785)*	36.26	0.25	11.81	300

**Values in parentheses refer to TOTAKU FLUORO-A Grounded*

Operating Temperature Range:

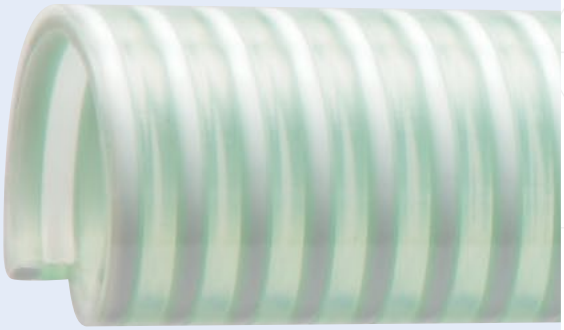
°F: 14 to 122 °C: -10 to 50

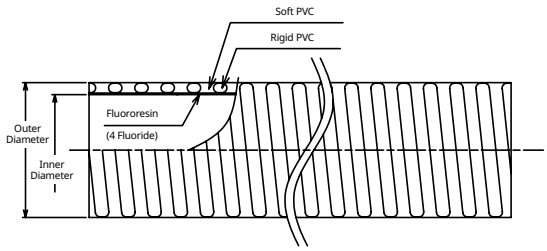
Notes:

- The permissible pressure varies with operating temperature.
- Operating down to a vacuum level of approximately -29.5 inHg (-0.1 MPa) is feasible at room temperature.

TOTAKU FLUORO-C

Part Number - 23122





TOTAKU FLUORO-C with Grounding Wire

Part Number - 23123

Note: This product is made to order. Please contact us for more information.

Features (inner surface made with fluororesin)

- Outstanding resistance to chemicals due to the low reactivity of PTFE resin.
- Fluids have low adhesion to the surface, which provides excellent water-repellent properties for effortless cleaning.
- Designed for safe and easy connections.
- Low leaching minimizes liquid alteration, making it ideal for transporting chemicals.
- Lightweight, constructed entirely from resin.

Applications

- Suitable for both suction and delivery applications.
- Transportation of chemical products.
- Transportation of paints.

Cautions

- Not suitable for medical or pharmaceutical applications. Therefore, safety for such uses cannot be guaranteed.
- Not suitable for transporting powders or granules.
- Hot water washing should be done under the following conditions: temperature under 176°F (80°C), pressure below 14.5 psi (0.1 MPa), and pressurization time limited to 3 minutes or less.

Standard Dimensions and Properties

Nominal Diameter		Inner Diameter		Outer Diameter		Reference Weight		Allowable Pressure *(at room temperature)*		Allowable Bend Radius *(to the center axis of the hose)*	
inch	mm	inch	mm	inch	mm	lbs/ft	g/m	psi	MPa	inch	mm
1	25	1.00	25.4	1.27	32.2	0.28 (0.29)*	420 (430)*	72.52	0.50	9.45	240
1.5	38	1.50	38.0	1.82	46.2	0.50 (0.51)*	740 (755)*	58.02	0.40	13.78	350

**Values in parentheses refer to TOTAKU FLUORO-C Grounded*

Operating Temperature Range:

°F: 14 to 122 °C: -10 to 50

Notes:

- The permissible pressure varies with operating temperature.
- Operating down to a vacuum level of approximately -29.5 inHg (-0.1 MPa) is feasible at room temperature.

SHIMETAC for TOTAKU FLUORO

Applicable Sizes: 1 in (ϕ25) to 2 in (ϕ50)

SHIMETAC for TOTAKU FLUORO

1 in (φ25), 1.5 in (φ38) Part No. 92378
2 in (φ50) Part No. 92377-050
Material: Cast Stainless Steel (SCS14, Equivalent to AISI 316

1 in φ 25

1.5 in (φ38), 2 in (φ50)

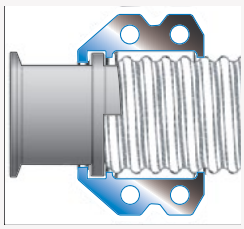
Features

- Made with an AISI 316 (SUS316) holder for superior corrosion resistance.
- Equipped with bolts and nuts made of AISI 304 (SUS304).
- Features a silicone gasket.
- Improved pressure resistance with a special anti-pullout structure.
- Easy to connect on-site.
- Can be reused repeatedly.

Notes

- Be sure to use the *dedicated fittings* for SHIMETAC.
- The fittings shown are examples.

SHIMETAC for TOTAKU FLUORO Features a Specialized Anti-Pullout Structure



Dedicated Fittings for SHIMETAC

Part Number 92379

M1 SHIMETAC Shank F (AISI 316)
Sizes: 1 in (ϕ25) to 2 in (ϕ50)

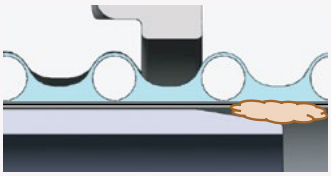
Part Number 92380

IDF Ferrule SHIMETAC Shank F (AISI 316)
Sizes: 1 in (ϕ25) to 2 in (ϕ50)

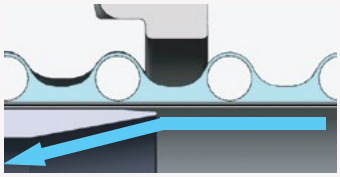
Improved Design to Prevent Fluid Pooling at the Nipple Tip

The internal tapered nipple design has been enhanced by reshaping the nipple tip, effectively resolving issues caused by fluid pooling.

Conventional design



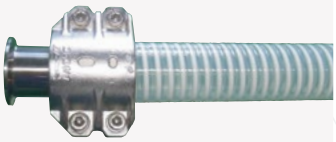
Design to minimize pooling



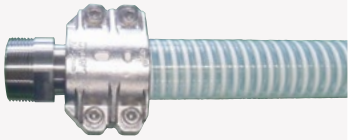
Hose Installation Examples

For SHIMETAC

IDF Ferrule with SHIMETAC Shank F



M1 SHIMETAC Shank F



For Crimping

For IDF Ferrule

For M1

Scan, tap, or touch for product videos

Product Overview

Compatible Hoses

Installation Method

TOTAKU FLUORO Chemicals Resistance Table

	Oil, Solvents, and Chemicals [Concentration (wt%), Temperature (°F [°C])]	Toxic	Hazardous	Dangerous	Fluoro *(Inner Layer)*	Resin N	AISI 304 *(SUS304)*	AISI 316 *(SUS304)*
A	Acetaldehyde			✓	0	0	0	0
	Acetic Acid (100%, Room Temperature)			✓	0	0	–	–
	Acetone			✓	0	♦	0	0
	Acetonitrile		✓	✓	0	–	–	–
	Acetophenone				0	0	0	0
	Acrylonitrile		✓	✓	0	0	0	0
	Alum				0	0	–	–
	Aluminum Chloride				0	0	X	X
	Aluminum Fluoride				0	0	X	X
	Ammonium Carbonate				0	0	0	0
	Ammonium Chloride				0	0	♦	♦
	Ammonium Hydroxide (Ammonia Water)		✓		0	0	0	0
	Ammonium Nitrate				0	0	0	0
	Amyl Alcohol			✓	0	0	0	0
	Aniline		✓		0	♦	0	0
	Aqua Regia		✓		0	♦	X	X
	Arsenic Acid	✓			0	0	–	–
B	Barium Chloride		✓		0	0	X	0
	Barium Hydroxide		✓		0	0	0	0
	Benzaldehyde			✓	0	♦	♦	♦
	Benzene			✓	0	♦	0	0
	Benzoic Acid				0	0	♦	♦
	Benzoyl Chloride				0	♦	–	–
	Benzyl Alcohol				0	0	♦	♦
	Borax				0	0	–	0
	Boric Acid				0	0	0	0
	Boron Trifluoride		✓		0	0	–	–
	Bromine		✓		0	X	X	X
	Butyl Acetate			✓	0	♦	0	0
	Butyl Alcohol			✓	0	0	0	0
C	Calcium Chloride				0	0	0	0
	Calcium Nitrate				0	0	–	–
	Carbon Disulfide		✓	✓	0	♦	0	0
	Carbon Tetrachloride		✓		0	X	0	0
	Cellosolve			✓	0	♦	0	0
	Chlorobenzene			✓	0	X	–	–
	Chloroform		✓		0	♦	0	0
	Chlorosulfonic Acid		✓		0	X	X	♦
	Chromic Acid (25%, Room Temperature)		✓		0	0	X	♦
	Citric Acid				0	0	0	0
	Copper Chloride		✓		0	0	♦	♦
	Creosote Oil				0	–	0	0
	Cresol		✓		0	0	♦	0
	Cyclohexane			✓	o	♦	0	0
	Cyclohexanol			✓	0	0	0	0
	Cyclohexanone			✓	0	♦	0	0
D	Diacetone Alcohol			✓	0	–	0	0
	Dibutyl Phthalate				0	0	0	0
	Dibutylamine			✓	0	–	–	–
	Diethyl Ether (Ethyl Ether)			✓	0	♦	0	0
	Dimethyl Phthalate				0	–	–	–

Toxic: Chemicals designated as toxic substances.
Hazardous: Chemicals designated as hazardous substances.
Dangerous: Class 4 special flammable substances, Class 1 petroleum substances, alcohols, and Class 2 petroleum-based materials prone to generating static electricity.
Resin N: Resin-made nipples for SHIMETAC.
AISI 304 (SUS304): Bolts and nuts for SHIMETAC.
AISI 316 (SUS316): Stainless steel holders and Nipple F for SHIMETAC.
Note: The classifications used in this table follow Japanese standards.
Please contact us for details.

Symbol Explanations:
0 : No or minimal impact.
♦ : Significant impact (may still be usable under certain conditions).
X : Not suitable for use.
– : No data available.

TOTAKU FLUORO Chemicals Resistance Table

	Oil, Solvents, and Chemicals [Concentration (wt%), Temperature (°F [°C])]	Toxic	Hazardous	Dangerous	Fluoro *(Inner Layer)*	Resin N	AISI 304 *(SUS304)*	AISI 316 *(SUS304)*
	Dimethylacetamide			✓	0	–	–	–
	Dimethylformamide (DMF)			✓	0	0	–	0
	Dioctyl Phthalate				0	♦	0	0
	Dioxane			✓	♦	♦	–	–
E	Epichlorohydrin		✓	✓	–	–	0	0
	Ethanol (Ethyl Alcohol)			✓	0	0	0	0
	Ethyl Acetate		✓	✓	0	♦	0	0
	Ethylene Dichloride			✓	0	♦	0	0
	Ethylene Glycol				0	0	0	0
	Ethylene Oxide		✓		♦	0	0	0
	Ethylenediamine			✓	0	0	0	0
F	Fatty Acids				0	♦	0	0
	Ferric Chloride Solution (38%, Room Temperature)				0	0	X	X
	Formaldehyde (40%, Room Temperature)		✓		0	0	0	0
	Formic Acid (50%, Room Temperature)				0	0	♦	0
	Furan			✓	–	–	–	0
	Furfuryl Alcohol			✓	0	X	0	0
G	Gasoline			✓	0	♦	0	0
	Glucose				0	0	0	0
	Glycerin				0	0	0	0
	Glycolic Acid				0	–	–	–
H	Heptane			✓	0	♦	0	0
	Hexane			✓	0	0	0	0
	Hydrazine	✓			0	–	0	0
	Hydrobromic Acid (20%, Room Temperature)		✓		0	0	X	X
	Hydrochloric Acid (38%, Room Temperature)		✓		0	0	X	X
	Hydrofluoric Acid (20%, Room Temperature)	✓			0	0	–	–
	Hydrogen Peroxide (30%, Room Temperature)		✓		0	0	0	0
I	Isooctane			✓	0	♦	0	0
	Kerosene			✓	0	♦	0	0
	Lactic Acid				0	0	X	0
	Lead Acetate		✓		0	0	0	0
	Lead Nitrate		✓		0	0	–	–
	Linseed Oil				0	0	0	0
M	Magnesium Chloride				0	0	♦	0
	Magnesium Hydroxide				0	0	0	0
	Maleic Acid				0	0	♦	♦
	Mercury	✓			0	0	0	0
	Mercury(II) Chloride	✓			0	0	X	X
	Methanol (Methyl Alcohol)		✓	✓	0	0	0	0
	Methyl Ethyl Ketone (MEK)		✓	✓	0	0	0	0
	Methyl Isobutyl Ketone			✓	0	♦	0	0
	Methylene Chloride				0	♦	–	–
	Mineral Oil (ASTM No. 3)				0	0	0	0
	Monochloroacetic Acid		✓		0	0	–	–
N	Naphtha			✓	0	♦	0	0
	Naphthalene				0	0	0	0
	Nickel Chloride				0	0	♦	0
	Nitric Acid (60%, Room Temperature)		✓		0	X	0	0
	Nitrobenzene		✓		0	0	0	0
	N-Methylaniline		✓		0	–	–	–

Toxic: Chemicals designated as toxic substances.
Hazardous: Chemicals designated as hazardous substances.
Dangerous: Class 4 special flammable substances, Class 1 petroleum substances, alcohols, and Class 2 petroleum-based materials prone to generating static electricity.
Resin N: Resin-made nipples for SHIMETAC.
AISI 304 (SUS304): Bolts and nuts for SHIMETAC.
AISI 316 (SUS316): Stainless steel holders and Nipple F for SHIMETAC.
Note: The classifications used in this table follow Japanese standards.
Please contact us for details.

Symbol Explanations:
0 : No or minimal impact.
♦ : Significant impact (may still be usable under certain conditions).
X : Not suitable for use.
– : No data available.

TOTAKU FLUORO Chemicals Resistance Table

	Oil, Solvents, and Chemicals [Concentration (wt%), Temperature (°F [°C])]	Toxic	Hazardous	Dangerous	Fluoro *(Inner Layer)*	Resin N	AISI 304 *(SUS304)*	AISI 316 *(SUS304)*
	N-Methylpyrrolidone				*0*	–	–	–
O	Octane			✓	*0*	–	–	–
	Octene			✓	*0*	–	–	–
	Oleic Acid				*0*	*0*	*0*	*0*
	Oxalic Acid		✓		*0*	*0*	♦	♦
P	Perchloric Acid				*0*	♦	*X*	*X*
	Perchloroethylene				*0*	♦	–	♦
	Phenol (Room Temperature)		✓		*0*	–	*0*	*0*
	Phenylhydrazine				*0*	–	–	–
	Phosphoric Acid (50%, Room Temperature)				*0*	*0*	*0*	*0*
	Phosphorus Oxychloride	✓			*0*	–	–	–
	Phosphorus Trichloride	✓			*0*	–	–	–
	Phthalic Acid				*0*	–	–	–
	Potassium Chloride				*0*	*0*	*0*	*0*
	Potassium Hydroxide (30%, Room Temperature)		✓		*0*	*0*	♦	♦
	Potassium Nitrate				*0*	*0*	♦	♦
	Potassium Permanganate (5%, Room Temperature)				*0*	*0*	*0*	*0*
	Propyl Alcohol			✓	*0*	*0*	*0*	*0*
	Propylene Oxide			✓	*0*	–	–	–
	Pyridine			✓	*0*	♦	–	♦
S	Salad Oil				*0*	–	*0*	*0*
	Salicylic Acid				*0*	*0*	*0*	*0*
	Seawater				*0*	*0*	*0*	*0*
	Silicon Tetrachloride				*0*	–	–	–
	Silver Nitrate		✓		*0*	*0*	♦	*0*
	Sodium Carbonate				*0*	*0*	*0*	*0*
	Sodium Chloride (Salt)				*0*	*0*	♦	♦
	Sodium Hydroxide (Caustic Soda) (10%, Room Temperature)		✓		*0*	*0*	*0*	*0*
	Sodium Hypochlorite (5%, Room Temperature)				*0*	*0*	*X*	♦
	Sodium Nitrate				*0*	*0*	*0*	*0*
	Sodium Silicate				*0*	*0*	–	*0*
	Sodium Sulfite				*0*	*0*	*0*	*0*
	Sodium Thiosulfate				*0*	*0*	–	*0*
	Stannous Chloride (Tin(II) Chloride)		✓		*0*	*0*	–	–
	Stearic Acid				*0*	*0*	*0*	*0*
	Sulfur				*0*	*0*	*0*	*0*
	Sulfuric Acid (98%, Room Temperature)		✓		*0*	♦	*X*	*X*
	Sulfurous Acid (10%, Room Temperature)				*0*	*0*	♦	*0*
T	Tetrahydrofuran (THF)			✓	♦	♦	–	*0*
	Toluene		✓	✓	*0*	♦	*0*	*0*
	Tributylamine				*0*	–	–	–
	Trichloroacetic Acid		✓		*0*	*0*	♦	♦
	Trichloroethylene				*0*	*X*	*0*	*0*
	Triethylamine			✓	*0*	–	–	–
W	Water				*0*	*0*	*0*	*0*
X	Xylene		✓	✓	*0*	*X*	*0*	*0*
Z	Zinc Chloride		✓		*0*	*0*	*X*	*0*

Toxic: Chemicals designated as toxic substances.
Hazardous: Chemicals designated as hazardous substances.
Dangerous: Class 4 special flammable substances, Class 1 petroleum substances, alcohols, and Class 2 petroleum-based materials prone to generating static electricity.
Resin N: Resin-made nipples for SHIMETAC.
AISI 304 (SUS304): Bolts and nuts for SHIMETAC.
AISI 316 (SUS316): Stainless steel holders and Nipple F for SHIMETAC.
Note: The classifications used in this table follow Japanese standards.
Please contact us for details.

Symbol Explanations:
0 : No or minimal impact.
♦ : Significant impact (may still be usable under certain conditions).
X : Not suitable for use.
– : No data available.