

# Precautions for Using Our Products Safely

In order to take advantage of the features of our products and use them safely, carefully read and observe the precautions listed here. Failure to do so may result in injury or physical damage.

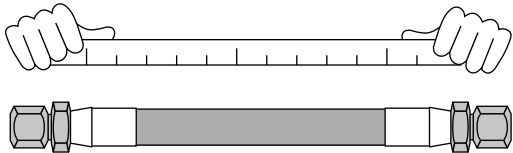
⚠ Warning	Conditions that could result in death or serious injury.
⚠ Caution	Hazardous conditions in which only minor or moderate injuries may occur and hazardous conditions in which only property damage is expected.

⚠Warning Toyox products are developed and manufactured for general industrial applications. For applications that require safety to be considered, check the requirements and other conditions in advance. Do not use Toyox products for implantation or injection into the human body, or for applications where parts of the product may remain inside the human body. We do not guarantee adaptability or safety for these types of applications. When using Toyox products, read the handling precautions carefully before use.

## Toyox Hose Assemblies

### ① Precautions regarding construction

1. To avoid tension, allow enough room for the hose length. Apply positive (negative) pressure and check before use. Toyox hose assemblies change in length or twist significantly when positive (negative) pressure is applied, so if there is not enough room for the hose length, tension may occur and the hose may rupture or the coupling may become disconnected.

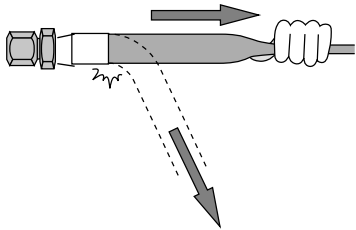


Change in length of each hose

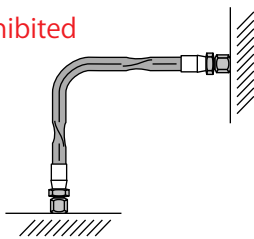
	Positive pressure	Negative pressure
TOYOSILICONE	φ to 12, 32, 50: Contraction φ 5 to 25, 38: Elongation	-
HYBRID TOYOSILICONE	Elongation	Contraction
TOYOSILICONE-S	Elongation	Contraction
TOYOSILICONE-S2	Elongation	Contraction
TOYOSILICONE-P	Elongation	Contraction
TOYOSILICONE THERMO	φ, 9, 12: Contraction φ 9, 25: Elongation	-
TOYOSILICONE STEAM	φ, 12: Contraction φ 9, 25: Elongation	-
TOYOSILICONE STEAM S	Elongation	Contraction
TOYOFOODS	φ25 to 50: Elongation	-
TOYOFOODS-S	Elongation	Contraction
HYBRID TOYOFOODS	φ25: Elongation	-
ECORON	φ25 to 50: Elongation	-
ECORON-S	Elongation	Contraction
TOYORING-F	Elongation	Contraction
TOYOFUSSO	φ 9 to 50: Elongation	-
TOYOFUSSO SOFT	φ 9, 25: Elongation	-
TOYOFUSSO-E	φ 9, 25: Elongation	-
TOYOFUSSO-S	φ 9 to 50: Elongation	Contraction
TOYOFUSSO SOFT-S	φ 9 to 50: Elongation	Contraction
FUSSOTHERMO-S100° C	φ 2 to 25: Elongation	Contraction

2. Remove all foreign substances such as dust adhering to the coupling connection. Failure to do so may cause fluid leakage.  
3. Do not pull on Toyox hose assemblies intentionally or pipe or use them in a twisted state.

⊘ Prohibited



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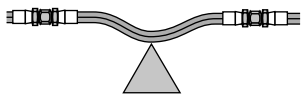


4. Protect Toyox hose assemblies from external scratches. If the Toyox hose assembly may come into contact with other objects (machinery, equipment, etc.), it may cause damage to the hose due to external scratches or damage to the couplings.

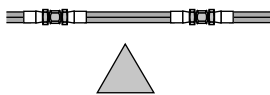
Example 1: When the hose contacts a sharp object.

Solution: Shorten the clamping interval to prevent contact.

⊘ Prohibited



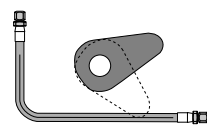
OK (after correction)



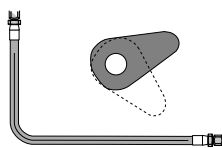
Example 2: When the hose contacts the moving part of a machine.

Solution: Change the path of the hose so that it will not contact the machine.

⊘ Prohibited



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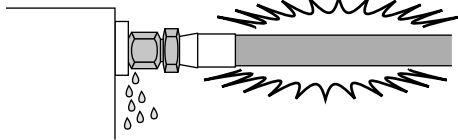


5. Perform piping and use hoses so as to avoid applying force to the base parts of the couplings.

### ② Precautions regarding use

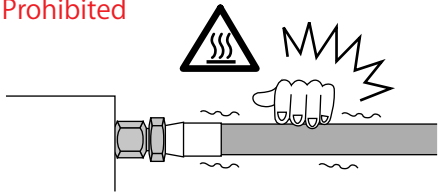
1. Refer to the specifications for each hose for the operating temperature and pressure ranges.  
2. Do not use hoses for applications where shock pressure is applied to solenoid valve piping, etc. Doing so may cause fluid leakage, hose disconnection, or hose rupture.

⊘ Prohibited

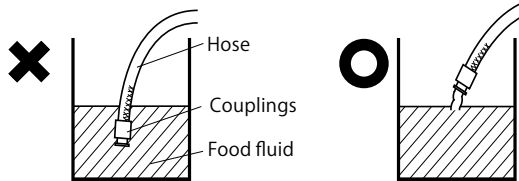


3. ⚠Warning Do not energize. Doing so may result in rupture of the hose or electric shock.  
4. Do not use in places where vibrations or shocks occur. Doing so may damage the coupling or cause hose disconnection.  
5. Do not touch the hose or couplings under positive (negative) pressure. If you approach or touch them carelessly, when the hose or coupling is damaged, fluid will spray out and it will be dangerous. In addition, if the fluid is hot, there is a risk of burns.

⊘ Prohibited



6. ⚠Warning Do not allow fluid (food, etc.) to contact any part other than the inner surface of the hose and coupling. Doing so may cause the fluid to penetrate the hose reinforcement layer, remain in the coupling, encourage bacteria (adhesion), and cause hose deterioration. In addition, contamination with dust, hose fragments (reinforcement material), and printed ink on the outer surface may occur.



### ③ Other precautions

1. ⚠Warning Do not rework, repair, or modify (excluding replacement of specified parts). Toyox hose assemblies that have been reworked, repaired, or modified do not have the performance described in the catalog, and may cause hose rupture or coupling disconnection.

⊘ Prohibited

