

# Precautions to ensure safe usage

The precautions given below are intended to ensure safe and correct use of the products.  
Note that certain restrictions apply to use of these products. Failure to observe these could result in injury or property damage.

<b>Warning</b>	A potentially hazardous situation which could result in death or serious injury.
<b>Caution</b>	A dangerous situation which could result in minor or medium injury and/or in which only property damage is foreseen.

**Warning** TOYOX products have been developed and manufactured for general industrial applications.

For applications that require safety, confirm in advance.

Never use for implant or injection application or other applications where there is a possibility of the product partially remaining in the body.

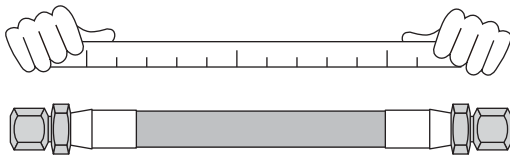
Toyox makes no guarantee of the adaptability or safeness related to such applications.

Please read the Handling Precautions carefully before use.

## TOYOX Hose Assemblies

### ① Notes for installation

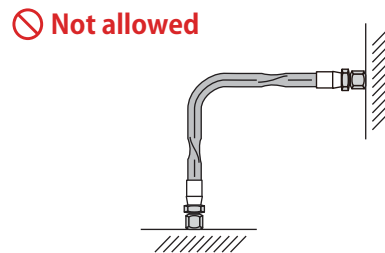
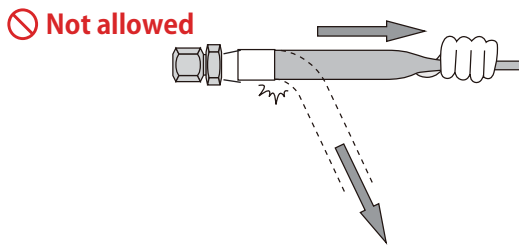
- Set the length so as to ensure sufficient play in the hose to avoid it being put under tension. Check by applying pressure (or depressurizing) before use. TOYOX hose assemblies display major changes in length and torsion when (de-) pressurized, meaning that if hose length is not given sufficient play, there is a risk of hose ruptures or coupling disconnection caused by tensile stress.



Changes in length of each hose

	When pressure is applied	When negative pressure is applied
TOYOSILICONE	9~12, 32, 50 φ : shrinks 15~25, 38 φ : stretches	—
HYBRID TOYOSILICONE	stretches	shrinks
TOYOSILICONE-S	stretches	shrinks
TOYOSILICONE-S2	stretches	shrinks
TOYOSILICONE-P	stretches	shrinks
TOYOSILICONE THERMO	6, 9, 12 φ : shrinks 19, 25 φ : stretches	—
TOYOSILICONE THERMO 140	9, 12 φ : shrinks 19, 25 φ : stretches	—
TOYOSILICONE STEAM	9, 12 φ : shrinks 19, 25 φ : stretches	—
TOYOFOODS	25~50 φ : stretches	—
TOYOFOODS-S	stretches	shrinks
HYBRID TOYOFOODS	25 φ : stretches	—
ECORON	25~50 φ : stretches	—
ECORON-S	stretches	shrinks
TOYORING-F	stretches	shrinks
TOYOFUSSO	25~50 φ : stretches	—
TOYOFUSSO-E	25 φ : stretches	—
TOYOFUSSO S	25~38 φ : stretches	shrinks
TOYOFUSSO SOFT	25 φ : stretches	—

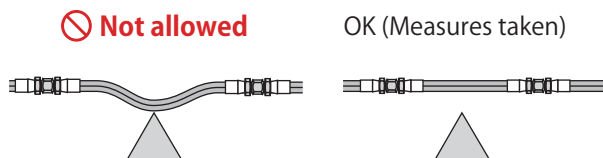
- Completely remove any foreign matter such as debris adhering to the coupling connection. This may cause fluid leakage.
- Do not pipe or use TOYOX hose assemblies so as to pull or twist them deliberately.



- Protect TOYOX hose assemblies from external damage. If TOYOX hose assemblies contact other objects (machines, equipment, etc.), the hose could rupture from external damage, or the coupling could be damaged.

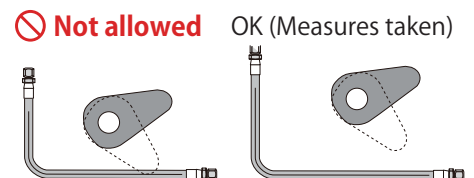
Ex. 1) When hose contacts a sharp object. \_\_\_\_\_

Measure: Shorten the distance between clamps and prevent contact.



Ex. 2) When hose contacts a machine's moving section. \_\_\_\_\_

Measure: Change the hose path so that it will not make contact.

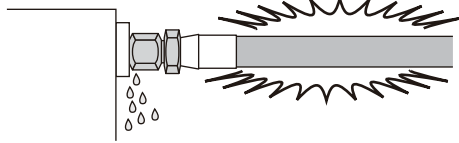


- Make sure that force is not applied to the coupling base during piping or use.

## ② Notes for safe usage

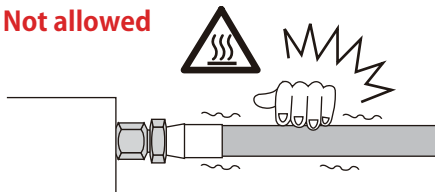
1. For working temperature and pressure ranges, refer to the specifications for each hose.
2. Do not use for applications where impact pressure is applied inside the piping, such as solenoid valve piping. This may cause fluid leakage, hose disconnection, or hose ruptures.

**⊘ Not allowed**

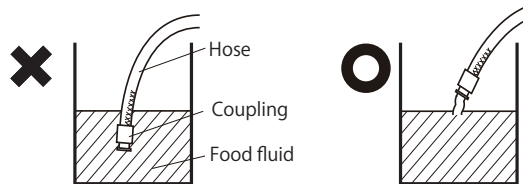


3. **⚠ Warning** Do not pass an electric current through the hose. The risk of hose ruptures due to current or electric shock presents a danger.
4. Do not use in locations subject to vibration or impact. The coupling may break or the hose become disconnected.
5. Do not touch the hose or couplings during pressurization or depressurization. Carelessly approaching or contacting the hose or coupling is dangerous. If the hose or coupling is damaged, the fluid, etc., could spray out. As well, if the fluid is hot, there is a risk of burns.

**⊘ Not allowed**



6. **⚠ Warning** Do not allow anything other than the inner surface of the couplings or hose to come in contact with fluids, because the fluids may permeate the hose reinforcement layer or remain inside the couplings, and bacteria may propagate (attach to the parts) or the hose may deteriorate. Also, dust, hose fragments (reinforcement material) and ink adhering to the outer surface may be mixed in.



## ③ Other notes

1. **⚠ Warning** Do not adjust, repair or modify the hose. (except for replacement of designated parts ). A TOYOX hose assembly which has been adjusted (re-machined), repaired or modified will not satisfy the performance listed in the catalog, leading to the risk of hose rupture or coupling disconnection.

**⊘ Not allowed**

