



Guidelines for cleaning and sanitizing food hoses

The cleaning and sanitizing suggestions set forth below are guidelines only.

It is necessary that all applicable government regulations pertaining to the cleaning and sanitizing of the food hoses and food hoses assemblies be followed and adhered to and which governmental regulations supersede the guideline contained herein.

The life of the hose is affected by the cleaning and sanitizing process due to the mechanical and chemical stresses which occur during the cleaning and sanitizing procedure. The service period of rubber hoses is dependent on their formulation and the environment of use which in turn is influenced by the product, process temperature, cleaning and bactericidal compounds and time of exposure. Users should frequently monitor the physical condition of the rubber hose material product contact surfaces. Such observations are necessary to determinate the actual sanitary service period of rubber hoses. It is further recommended that the rubber hose be replaced before surface imperfections or sloughing occurs. Routine replacement schedules should be established and followed.

Food hose users should be guided by their own, if applicable, or specific industry cleaning and sanitizing procedures and standards. For example, the wine industry may have different standards than the dairy industry and any standards applicable to a specific industry supersede the guideline contained herein.

The cleaning and sanitizing of food hoses and hose assemblies is intended to remove any food particles or residues including detergents or disinfectant that may be the source of harmful bacteria microorganism or other sources of contamination. The effectiveness of the guidelines contained herein are dependent upon the practices and care taken by the users.





Food hose cleaning - Step by step

1. FREQUENCY

The frequency of the cleaning and sanitizing cycle needs to be done according to the type of food or beverage being conveyed and the contamination risk level. In principle, the cleaning and sanitizing process should be conducted on a frequent basis.

2. WASHING

Thoroughly washing the hose with hot potable water is the first step in the cleaning process. Washing with hot potable water will facilitate the cleaning of the hose but does not eliminate the need to clean the hose with the appropriate detergent followed by the disinfection of the hose. The temperature of the hot water and duration of the washing/rinsing cycle will depend upon the characteristic of the material/products being conveyed. The initial washing/rinsing with hot potable water should be completed as soon as possible after the conveyance process is completed. All residual water and residue from the initial washing/rinsing cycle must be drained away completely.

3. CLEANING/DISINFECTING

The selection of a specific detergent and of a specific disinfectant will depend on the material/products being conveyed. The recommendation of the manufacturer of the detergent and of the disinfectant should be strictly followed especially regarding concentration levels.

After the cleaning of the hose with detergent followed by the rinse of it with potable water, the hose must be sterilized either with steam or with chemical solution. Steam is classified as "Physical" disinfectants: its effectiveness in eliminating bacteria and other contaminants varies according to the material/products being conveyed and the procedure employed by the users.

Chemical disinfectant such as caustic soda, nitric acid, per-acetic acid, phosphoric acid, chloroacetic acid or other acids suitable for disinfecting food hoses must be carefully selected to ensure optimal effectiveness while also assuring maximum safety and health. When selecting a particular disinfectant, it is necessary to pay strict attention to concentration levels, temperature, cycle time, etc. The type of product/material being conveyed be taken into consideration when selecting a specific disinfectant. As soon as the disinfecting treatment with chemical solutions is made, the hose must be carefully and for a sufficiently long time rinsed with potable water to eliminate any chemical residues from the disinfecting treatment.

4. PROCESS CONTROLS

The result of the cleaning and sanitizing process must be regularly checked to ensure that all contamination and residuals have been eliminated. Any non-conforming events need to be addressed in a corrective action procedure.

	Medium	Hose tube	Concentration	Temperature
RINSING	Hot water	NR / NBR / SILIKON/ EPDM / BIIR / UPE / PTFE	-	Max 90°C
PHYSICAL DISINFECTANT	Steam [we suggest open steam sterilization]	NR / NBR	-	Max 110°C Max 10 min
		EPDM / BIIR / UPE / PTFE	-	Max 130°C Max 30 min
		SILIKON	-	Max 135°C Max 18 min
CHEMICAL DISINFECTANT	Acid [i.e. Nitric acid]	NR / NBR / SILIKON	0,1%	Max 65°C
			2%	Max 25°C
		EPDM / BIIR / UPE / PTFE	0,1%	Max 85°C
			3%	Max 25°C
	Citric acid	PU	5%	Max 20°C
	Alkaline solution [i.e. Caustic soda]	NR / NBR / SILIKON	2%	Max 65°C
			4%	Max 25°C
		EPDM / BIIR / UPE / PTFE	2%	Max 85°C
			5%	Max 25°C
	Caustic soda	PU	2%	Max 20°C
	Disinfectant [i.e. Peracetic acid]	NR / NBR / SILIKON	1%	Max 25°C
		EPDM / BIIR / UPE / PTFE		Max 40°C

The life of the hose is affected by the cleaning and sanitizing process due to the mechanical and chemical stresses which occur during the cleaning and sanitizing procedure. The service life of rubber hoses is directly dependent on frequency and time of exposure to PHYSICAL and CHEMICAL disinfectants. Users should frequently monitor the physical condition of the rubber hose material product contact surfaces. Such observations are necessary to determinate the actual sanitary service period of rubber hoses.

The present tabulation is based on tests and on generally available sources, and believed to be reliable. However, must be used as a guidance only since it does not take in consideration all variable that may be encountered in actual use such as and not limited to duration of exposure and stability of the fluid and possible contamination.