Belt Cleaning Fundamentals

Wire Belt Company offers easy-to-clean conveying solutions for a variety of applications and industries. Flat-Flex®, Flat-Flex® XT®, Flat-Flex EL™, Flat-Flex C-Cure Edge®, Compact-Grid™, and Versa-Link® are USDA ACCEPTED. These belts are specifically designed for ease of sanitation and are specifically designed to be CIP (Cleaned-In-Place). Wire Belt has provided the following industry suggestions for cleaning your belt in food processing environments.

1. Visible Solid Soil Removal – Prepare the conveyor belt by removing and dislodging large food or debris from the conveyor belt. Pay special attention to drive and idler components, shafting, belt support and conveyor frame and remove any large pieces of debris.

2. Pre-Rinse – Rinse the entire belt, drive and idler components, shafting, belt support and conveyor frame with water heated between 125° – 130°F. The pre-rinse water pressure should be kept low at between 150 – 300psi. Make sure that floor drains are kept clear of debris to prevent pooling of water.

3. Apply detergent* – Utilize a detergent solution on the belt, drive and idler components, shafting, belt support and conveyor frame. Apply the detergent at 150psi or per the manufactures recommendation. Do not allow the detergent to dry on the belt. Remove detergent from conveyor system after the manufacturer recommended amount of time has elapsed.

**Consideration to be given to the type of detergent utilized on the belt and the application method. There are many types of product available on the market to clean your conveyor belt. Below are 4 categories of cleaners. For specific information on these cleaners please contact the chemical manufacturer.*

Product:	Description:	Application:
General Cleaners	Excellent for removal of blood, greases, oils, fats and other solid, soft metal safe	Manual brush cleaning
Soft Metal Safe Alkaline Foam Cleaners	Formulated to remove blood, greases, oils, fats, and proteinaceous soils that adhere to equipment.	Foam, spray, soak, or high-pressure cleaning
Alkaline Foam Cleaners	High performance, chlorinated cleaners, that is used in diluted form (not soft metal safe.)	Foamer
Heavy Duty Caustic Cleaners	Formulated to remove tough soils like proteins, fat, grease, oils, blood that is cooked on or hardened on processing equipment surfaces (not soft metal safe.)	Circulation soak

4. Rinse and Inspect – Rinse the entire conveyor system with 130°F water at 40 – 60 psi (high volume, low pressure) water. Following the rinse, fully inspect using visual cues, touch, and odor of the belt, drive and idler components, shafting, belt support, and conveyor frame for solid, soils, films, or residues. If these exist, additional cleaning may be necessary.

5. Inspect – Check that all detergents have been removed from the belt, drive and idler components, shafting, belt support, and conveyor frame. It is a suggested that pH testing be used as an aid to certify that the conveyor system has been thoroughly rinsed of detergent. The conveyor belt can be slowly run to help dry it and it's supports. Make sure to remove any pooled water from the floor.

6. Inspect and Discharge for Sanitizing – Inspect the belt again, this time utilizing sensory analysis to determine if the conveyor system is supporting bacteria. Utilize a adenosine triphosphate (ATP) testing to verify that any bacteria has been eliminated. ATP is contained in all plant, animal, yeast, and mold cells so the presence of ATP is a sign that one of these sources exist.

7. Sanitizing – Review the chemical manufacturers recommendations for sanitizer concentrations. Apply sanitizer as recommended to all areas of the conveyor system.

Best:	**Worst:**
1. Clean the belt on the conveyor	1. Utilize screw drivers, pry bars, or other tools to lift the belt
2. Utilize open frame conveyors	2. Formulate stronger than manufacturer recommended detergents and sanitizers
3. Clean the belt at drive / idler shafts	3. Deploy water rinse at PSI at above normal operating procedures
4. Address belt fatigue, drive issues or belt alignment before next run	4. Step on the belt carry surface, slam down or bump conveyors into each other.

Wire Belt Company does not in any way endorse a particular cleaning detergent, water temp, application method or frequency. The above info is provided as a suggestion. Your needs and requirements will vary. Consideration should be given to the type of product and risks. Consult your company HACCP guidelines or industry guidelines for appropriate steps.

Sanitation Procedures for Food Processors

Flat-Flex belts constructed of type 1.4310 stainless steel have been approved by the USDA/FDA for direct contact with food. In addition, the USDA has published regulations for the proper cleaning and sanitizing of wire belts to eliminate the dangers of contamination from bacteria and other potentially harmful substances.

Several types of cleaning/sanitizing agents have been approved by the USDA/FDA for use in food processing applications including; caustic, chlorine-based, acid products, alkaline foam cleaners etc.

The chart below discusses some of these products.

Several methods are typically used to apply the cleaning and sanitising agents: brushes, scraper bars, and high pressure air/water hoses. Whatever method is used to apply the cleaners, ALWAYS be sure to rinse off cleaning fluids thoroughly. The open mesh design of Flat-Flex belts provides maximum flow through of rinsing agents. Chlorinated cleaners will damage stainless steel.

Important Note: Always handle the belt gently when cleaning it, trying to avoid bending or pulling on the individual wire strands. Avoid forcing cleaning rods and brushes under the belt surface. If you do happen to bend or distort a strand or two while cleaning, straighten it immediately with needle nose plies, or the Wire Straightening Tool (part no. 017007).

Safety Reminder: Whatever cleaning products are being used at your facility, always be sure to read the directions carefully and use only as directed. Wear appropriate safety equipment as recommended by the manufacturer when using any harmful liquids

Product	Description	Application
General Cleaners	Excellent for removal of blood, greases, oils, fats and other soils; soft metal safe	Manual brush cleaning
Soft Metal Safe Alkaline Foam Cleaners	Formulated to remove blood, grease, oils, fats and proteinaceous soils that adhere to equipment	Foam, spray, soak or high-pressure cleaning.
Alkaline Foam Cleaners	High performance, cholorinated cleaner, that is used in diluted form (not soft metal safe)	Foamer
Heavy Duty Caustic Cleaners	Formulated to remove tough soils like proteins, fat, grease, oils, blood that is cooked on or hardened on processing equipment surfaces (not soft metal safe)	Circulation soak tank

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