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Technical Bulletin

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Subject: Cleaning of Personal Fall Protection Web Products

Personal Fall Protection Products manufactured from webbing should be cleaned periodically to help extend the life expectancy of the product and maintain an acceptable level of performance. Because of the wide variation of cleaning processes available and the potential effect on performance, specific procedures have been established by Capital Safety for their products to help ensure acceptable results.

Justification:

Analysis of the product cost versus cleaning cost should be performed before proceeding with the process. Considerations include age of product, cost of cleaning, estimated effectiveness of the cleaning process and the overall condition of the product.

Scope:

The cleaning procedures specified in this bulletin typically apply to Capital Safety's polyester webbing products used in Personal Fall Arrest Systems (PFAS). Synthetic rope products, such as lifelines or lanyards, can be cleaned using similar processes. Rope type lanyards are typically more economical to purchase than most other fall protection products. The potential damage (i.e., wear, cuts, etc.) to rope lanyards in many applications makes cleaning difficult to justify. Specialised web materials (Kevlar, elastic types, and reflective elements) and hardware materials/coating must be analysed prior to cleaning to determine effectiveness and potential damage from the cleaning process.

Frequency:

Past testing indicates that laundering does not contribute to strength loss, although it has been observed that commercial washing could cause abrasion between metal hardware elements and webbing straps, as well as degradation of product markings.

Laundered products must be inspected before use to determine if the product is acceptable. The specific length of time between laundering is solely dependent on the cleanliness of the product. Some applications may require weekly cleaning; other applications may require the product to be cleaned on an annual basis.

Effectiveness:

Laundering will be effective on the typical dirt and grease found in many industrial settings. Many paints, tar, and industrial chemicals cannot be completely removed from webbing. It is recommended that samples be laundered and inspected before a large quantity is processed to determine the effectiveness of laundering. Post laundering sample destructive testing may be appropriate if questions exist regarding the product's ability to perform.

Contact Capital Safety for post laundering evaluation and testing.



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Laundering Procedure

Various procedures can be effective in cleaning web products. High-pressure power type washers and steam cleaners should be avoided when cleaning web products because of potential harm to the web fibres. Two acceptable procedures are detailed below:

1. Hand Scrubbing: This procedure is effective for low volumes of equipment and can be performed internally at an economical price. The product can be soaked in water/cleaner solution before scrubbing. The scrubbing action will break down the dirt, grease, or other material on the webbing. Once cleaned, the product should be rinsed in clean water and hung to air dry in a well-ventilated area away from direct sunlight. Do not dry clean or place harness in clothes dryer due to potential damage to webbing and hardware.
2. Machine Wash: A top or side loading agitating style washing machine (commercial or consumer type) is acceptable for cleaning web products. The product should be placed in a mesh bag to prevent entanglement. A full wash and rinse cycle should be performed. Once cleaned, the product should be hung up to air dry in a well-ventilated area, away from direct sunlight. Do not dry clean or place harness in clothes dryer due to potential damage to webbing and hardware.

Cleaning Agent Specifications

A mild bleach free laundry detergent is acceptable.

The pH level (acidity or alkalinity) of the cleaning solution should be no higher than 11 or 12. A pH level higher than 12 may harm the webbing and affect the performance of the products.

The water temperature, when laundering, should not exceed 70°C. Generally a wash temperature between 60°C and 70°C is recommended for safe, effective cleaning.