FIRE SAFETY MANAGEMENT

SPONTANEOUS COMBUSTION

GOOD PRACTICE GUIDANCE

Textile Services Association

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SPONTANEOUS COMBUSTION

INTRODUCTION

This good practice guidance has been generated to highlight the causes of spontaneous combustion and associated risks, in addition to identifying safeguards to protect against them. The products which have a greater risk of spontaneous combustion are:

1. Oven and kitchen linen items
2. Heavily soiled garments (workwear)
3. Towelling
4. Linen items packed in quantities post finishing (including items plastic wrapped)
5. Industrial wipers
6. Other items, such as laundry hampers
7. Any item soiled with:
    a. Solvents
    b. Highly flammable substances
    c. Spa oils

The good practice guidance will focus on the principle of prevention of spontaneous combustion events.

DEFINITION

A definition of spontaneous combustion is: “the auto-ignition of organic matter (linen items) without apparent cause but typically through heat generated internally by rapid oxidation”.

KEY CONTROLS

The following are some key controls which should be considered and adopted where appropriate:

1. The wash processes should be capable of fully washing the soiled items without leaving any residues which can support spontaneous combustion during the finishing process.
2. The tumble driers should operate with a suitable “cool down” process where the processing heat within the items at the end of the cycle is significantly reduced (for standalone & automatic system tumble driers).

3. Small volume items, such as kitchen/oven linen, may be finished on alternative finishing equipment (e.g. rotary ironer) other than a flatbed ironer line.
4. The items at higher risk of spontaneous combustion (as detailed above) - as reasonably practicable - should be processed during the early part of the working shift and/or separated out 1 hour before the “end of day” process is initiated.
5. No items should be left in/on any finishing equipment overnight – ironer lines, tumble driers (stand-alone or automatic systems), garment tunnel finishers, and shrink wrap machines.
6. Understand the customers who could possibly return items contaminated with solvents, highly flammable substances or spa oils. These items should be processed in a manner that reduces the risk of spontaneous combustion.
7. A process should be developed which identifies a list of substances that could be returned on soiled items from a customer (including potential substances that are a normal part of the customer processing). For action on wash processes (see point 1 above).
8. Stacks of packed items should be hand checked (i.e. by cautiously touch-testing the centre of the packs) as part of the “End of day shutdown” process to confirm that the temperature at the centre of the packs is not higher than expected. – I would advise we use a thermal gun rather than hand checking now.
9. The presence of a staff member should remain on site for a minimum of 1 hour after the processing equipment has been switched off at the end of the day.
10. It would be best practice that higher-risk items are stored in an external area outside of the factory overnight or protected by specialist fire control systems.

Questions or comments to:

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