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Cage Ergonomics – Handling and Designing

Good Practice Guidance

Textile Services Association

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Ergonomic Operations and Design for Cages

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Purpose

This document outlines good practices for operation and design of metal and plastic cages. The primary purpose of the document is to collate a list of good practices that may enable businesses to develop effective safety policies in relation to cage handling and help develop ergonomically effective cages even from the design stage.

Scope

These good practices cover metal and plastic cages used in operator and customer premises.

Responsibility

Statutory Duty Holder for the laundry site and/or anyone responsible for procurement, maintenance and operation of the cages hold the responsibility for safe and ergonomic handling of the cages.

Key Points

The individual organisation's safety policies may include:

- A detailed risk assessment in relation to design features and usability of the cages.
- Analysis of corresponding accident data and interpreting the results accurately.
- Consideration for safety at design and procurement stage such as specifying the requirements of brakes, suitable castors etc. This should permit a 'joined-up thinking' approach to procure safe, ergonomic and cost-effective (considering the mid to long-term benefits) cages.
- Appropriate maintenance regime as per the manufacturer's instructions. For Example:
    - Clear all debris from the castors and maintaining them fit for purpose.
    - Ensure that door catches are not broken.
    - Ensure that no metal mesh or infill is broken or protruding sharp edges.
    - Ensure proper functioning of closure mechanisms.

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- Inspect the cages for wear and tear giving special care for areas that usually suffer excessive wear such as damage that can be caused by transport lock-out rails.

- Developing specific guidance to the third-party/end-users in terms of loading weight, storage, environment etc.
- Working together with the suppliers for design changes or tweaks through active feedback
- Hierarchy of control when it comes to repair decisions.

Training and Competence

The Health and Safety at Work Act 1974 requires Companies to provide whatever training, instruction and supervision necessary, as far as reasonably practicable, the health and safety at work of your employees.

It is the responsibility for any Company to ensure that the workforce (including employees, contractors, self-employed, agency etc.) who are using any work equipment such as cages, are adequately trained and competent to operate the equipment safely.

This ensures:-

- people know how to work safely and without risks to health;
- develops a positive health and safety culture;
- your organisations meet your moral and legal duty to protect employees' health and safety.

Training - along with knowledge, attitude and experience is necessary to develop such competence. Any person not competent and trained in the use of cages (including the handling, manoeuvring, storage, maintenance and inspection), should not operate until appropriately trained and deemed as competent by the company.

Design Features

Considerations may be given for following design features to help achieve the cage safety policy aspects discussed earlier:

- Getting the basic cage construction or the frame assembly is vitally important as this can dictate the positioning of other design facets such as door catches, shelves, castors, infill mesh etc.
- Allow every provision for clear visibility on the direction of travel.
- Infill: mesh or rod should be made of adequately selected material; construction should be robust enough to be fit for purpose while enabling easy maintenance.
- Door security: select a design that eliminates unintended unlocking of the door.
- Hand holds: the width should be ergonomically suitable – not very narrow or wide and positioned inside the cage to prevent injuries from an edge impact.
- Select cage designs that allows effortless nesting / 'stackability'.
- Door height specifications – Take into consideration manual handling implications, especially, height specification for easy access and to eliminate any obstructions at design stage. This also improves the ability of a person to use the correct manual handling techniques as often considerable weight is needed to be lifted out and over the height of the bottom door.

Castors

The castors are the cage's point of contact with the surface. Identifying the optimal requirements for castors can immensely improve the cage movement and ergonomic handling of the cages. Correctly identifying the most efficient castors early can help avoid undue replacements and repairs.

- Size specifications – consider castor sizes for all types of surfaces.
- Manoeuvrability – seek the advice of the cage supplier to install castors that can assist the overall cage design for best possible handling.
- If possible, consider installing thread guards (if handled well, this can help avoid debris build-up)
- If possible, consider installing brakes.

- Configuration: it has been observed that two fixed and two swivels castors configuration delivers best results for cage handling. Depending on individual preferences, the positioning of the swivel castors can be either to the front or to the back.

Manual Handling and Manoeuvring

- The users should always maintain control of the cages using both hands.
- If the cage design does not eliminate the need for leaning and/or stooping, a clear guidance should be made available.
- Ensure that the doors are locked closed avoiding any entrapment hazards and the hands are positioned on the inside of the cage to protect and avoid impact from the outside edge. The hands should be in a comfortable, ergonomic accessible position (not too wide, not too narrow).
- Pushing is generally considered ergonomically better. However, if this is not reasonably practical and the cage needs pulling, where unavoidable, proceed only after conducting relevant risk assessment. The operator must be in full control of the cage and observing the environment for hazards.
- Availability of PPE such as gloves, safety shoes are essential subject to risk assessment.
- Specific risk assessments, safe systems of work and training needs to be considered for slopes, gradients, slippery and uneven surfaces.
- Cage handling may require adjustments or precautions depending on environment and weather conditions.
- Metal mesh or infill is not designed for the purpose of manoeuvring the cage.
- Users should be able to identify if the loading weight would permit full control of the cage safely and ergonomically. The cage loading should not be top heavy. (Heavy items such as stacked sheets at the bottom and lighter items (towels, for example) at the top).
- Only one loaded cage should be operated at a time, avoiding tandem pulling or pushing.

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