UTILITY MANAGEMENT

LOCAL EXHAUST VENTILATION SYSTEMS & DUCTING

GOOD PRACTICE GUIDANCE

Textile Services Association

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INTRODUCTION

This good practice guidance is intended to help with the management and control of local exhaust ventilation (LEV), ducting systems as well as systems which form an integral part of processing equipment.

Local exhaust ventilation and integral systems with or without ducting, move exhaust fumes to a final end point; normally to outside the building, however they may also be closed loop filtered systems returning filtered air for re-use within the work-place environment or the process.

Examples where these systems are used:

1. Engineering workshop, e.g. grinding, sanding, welding, welding areas etc.
2. Chemical area, e.g. closed chemical store, within the work-place adjacent to washing machines, etc
3. Hot or cold work-place areas where air may be filtered and tempered
4. Tumble dryers, ironers, tunnel finishers, washer extractors, CTWs, spotting tables, etc
5. Kitchen and canteen area (deep fat frying).

The main fire risk associated with LEV and ducting systems is the accumulation of combustible materials inside the ducting systems and filters over a period of time. There is also the possibility of either an accidental ignition source or that which is part of the process equipment (gas burner) causing ignition. This may be particularly dangerous when the resultant fire may be hidden in the ducting and its delayed detection could result in a more significant event.

Fire is not the only hazard which is associated with the maintenance of ventilation ducting systems as these are very often required to remove harmful pollutants and particulates which when accumulated, can present a risk during maintenance either through inhalation, skin contact or indeed

explosion. Ventilation systems in healthcare processing environments should be risk assessed for microbial contamination.

See the links below:

http://www.hse.gov.uk/fireandexplosion/dsear.htm

http://www.hse.gov.uk/pubns/priced/l138.pdf

KEY CONTROLS

1. When ducting systems are installed, they should be fitted with inspection hatches to allow the internal condition of the ducting to be inspected.
2. Ducting systems should be included within “Planned Preventative Maintenance (PPM) programme” to ensure they are cleaned and examined for integrity. A RAMS procedure will ensure the appropriate PPE is worn by maintenance operatives and the correct procedures are adopted.
3. Any ducting system which cannot be thoroughly cleaned (particularly when it is difficult to reach for cleaning or inspection) should be replaced regularly.
4. Health and Safety Executive provides a comprehensive list of requirements for the management of dangerous substances through their Approved Code of Practice L138. https://www.hse.gov.uk/pubns/priced/l138.pdf

   According to these compliance requirements, the employers must:

   a. find out what dangerous substances are in their workplace and what the risks are
   b. put control measures in place to either remove those risks or, where this is not possible, control them

c. put controls in place to reduce the effects of any incidents involving dangerous substances
d. prepare plans and procedures to deal with accidents, incidents and emergencies involving dangerous substances
e. make sure employees are properly informed about and trained to control or deal with the risks from the dangerous substances
f. identify and classify areas of the workplace where explosive atmospheres may occur and avoid ignition sources (from unprotected equipment, for example) in those areas

5. The exhaust fans should be switched OFF during the calendar waxing process. This will avoid wax accumulation in ironer exhaust ducting. If a brown residue is seeping from ducting joints, it is more than likely a case of wax accumulation.

The links below are good examples of typical advice provided by the Fire Service which may be used to complement this good practice guidance.

Reference Link 1: http://www.hse.gov.uk/lev/

Reference Link 2: https://www.london-fire.gov.uk/media/1808/gn_86_lf_format.pdf

Reference Link 3: https://www.kent.fire-uk.org/your-safety/

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