



## Workplace welfare in the electroplating industry

Engineering Sheet No 4 (rev)

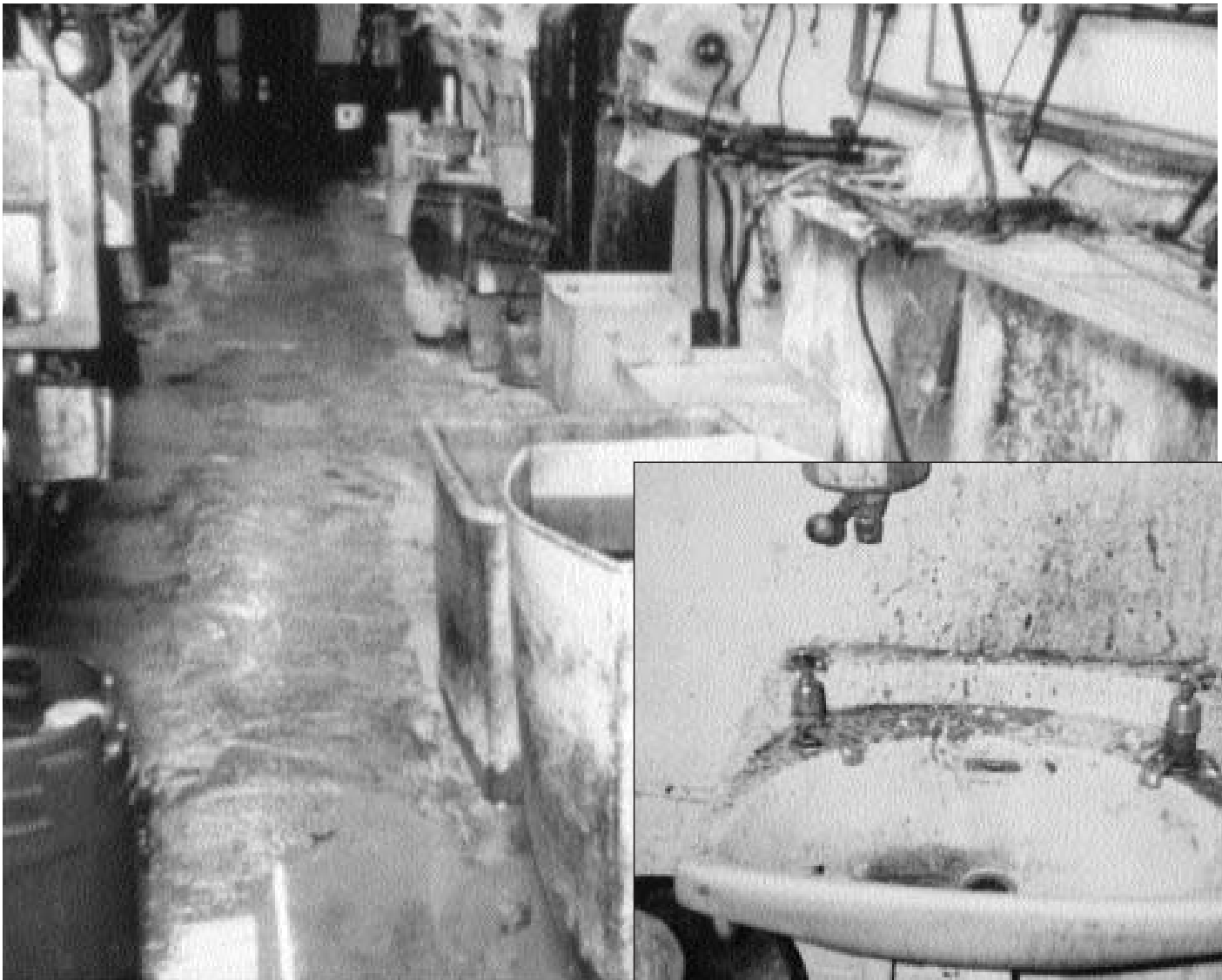
### Introduction

The general experience of HSE Inspectors is that conditions in electroplating shops are often poor. Although described as 'welfare' matters, many of the points raised in this information sheet have health or safety implications.

### Common problems

Some common problems occurring in electroplating shops are highlighted in the tables, together with associated hazards, causes and suggested remedies.

The Workplace (Health, Safety and Welfare) Regulations 1992 which came fully into force at all electroplating premises on 1 January 1996 replace the relevant provisions of the Factories Act 1961. They contain requirements covering most of the topics in this information sheet.



A wet and uneven floor and inadequate storage of hazardous substances

A dirty sink can spread infection

Problem: Wet floors

**Hazards:** Process fluids leaking, splashing, spilling or draining across floors can cause slips and falls, and can lead to electrical danger due to the wet environment. Chemical attack can lead to rotten/broken boards on walkways/ duckboards as well as extensive corrosion of floor surfaces, of equipment standing on the floor, and of the building structure itself.

**Causes:** Floors are often not properly designed or built to cope with a wet environment, or unsuitable materials are used for floor construction; maintenance problems (usually lack of maintenance) can be a primary or contributory cause of leaks or spillages; drains/drainage channels can become blocked, damaged or corroded.

**Remedies:** Proper material specification at design stage; checks during construction to ensure that building is completed to specifications; spillage retention/bunding; suitable drainage channels; preventive maintenance and prompt attention to faults as they occur.

Problem: Inadequate general ventilation

**Hazards:** Draughts making local exhaust ventilation ineffective; moisture (from steam) ingress into electrical equipment; corrosion of equipment; unpleasant smells, stale air leading to fatigue or loss of concentration.

**Causes:** Ventilation may be inappropriately designed, located or installed. Maintenance/repairs may be inadequate, even on properly installed equipment.

**Remedies:** Ventilation systems should be designed and installed by a competent contractor. There should be suitable preventive maintenance arrangements and a defect reporting scheme.

Problem: Dirty toilets/washing facilities

**Hazards:** Slips and falls; skin problems; ingestion of dirt and hazardous substances when eating, drinking or smoking if washing facilities are not used before breaks; toxic materials can be taken home if washing facilities are not properly used at the end of the working day.

**Causes:** Lack of maintenance system, ie clear management control and allocation of responsibilities, lack of co-ordinated responsibility where facilities shared by different employers.

**Remedies:** Planned maintenance, rotas or other arrangements for cleaning; written agreements between parties for shared facilities; defect reporting scheme.

**Comments:** Showers or baths should be provided where there is a risk of gross contamination of skin by harmful substances.

Problem: Dirty walls, floors and surfaces

**Hazards:** Trips, slips and falls; build-up of hazardous materials including those which are incompatible with each other and may react; contamination of equipment, signs, employees' skin and clothing may occur.

**Causes:** Inadequate maintenance systems including poor process control, procedures and equipment; poor housekeeping; lack of management control.

**Remedies:** Preventive maintenance including daily cleaning of rubbish/superfluous materials; weekly sweeping or other cleaning; clear responsibilities for housekeeping; management checks that procedures being followed.

**Comments:** The Approved Code of Practice for the Workplace Regulations requires cleanliness to be to a 'suitable standard' taking into account the nature of the work carried out. A dirty workplace may also contaminate customers' work or lead to problems with quality.

Problem: Inadequate lighting	
<b>Hazards:</b>	Slips, trips and falls; traffic accidents due to either poor light or glare, resulting in injury to personnel or damage to equipment.
<b>Cause:</b>	Lighting not suitably located or of suitable design; fittings not properly maintained; windows and roof panels dirty.
<b>Remedies:</b>	Suitably selected lighting; preventive maintenance arrangements; defect reporting and prompt breakdown repair; light fittings appropriately placed; regular cleaning of windows and roof lights using a safe system.
<b>Comments:</b>	Lighting should be by natural light so far as is reasonably practicable. Poor lighting may lead to poor quality work and customer complaints.

Workplace Regulations: other requirements

Suitable and sufficient furnished restrooms, rest areas or facilities are required where rest is necessary for reasons of health or safety. In electroplating shops this may be judged appropriate because of the hostile environment with possible exposure to dust, fumes and noise. Facilities provided must protect non-smokers against discomfort from cigarette smoke. There must be suitable rest facilities for members of the workforce who are pregnant women/nursing mothers.

There must be suitable and sufficient facilities provided for those who eat meals at work. In electroplating shops, the likely exposure to hazardous substances with a risk of ingestion is an obvious risk which would justify these provisions. Arrangements should be made for the facilities to be in the care of a responsible person and kept clean and hygienic.

Further information from HSE Books

*Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992 Approved Code of Practice and guidance L24*  
HSE Books 1992 ISBN 0 7176 0413 6

*Workplace health, safety and welfare - a short guide INDG244* (single copies free; ISBN 0 7176 1328 3 for priced packs of ten copies)

*Glazing and workplace health and safety INDG212* (free leaflet)

*Essentials of health and safety at work* HSE Books  
ISBN 0 7176 0716 X

*Ventilation of the workplace EH22* (Rev) HSE Books  
1988 ISBN 0 7176 0551 5

*Introduction to local exhaust ventilation HSG37*  
HSE Books 1993 ISBN 0 7176 1001 2

*Lighting at work HSG38* HSE Books 1998  
ISBN 0 7176 1232 5

*Seating at work HSG57* HSE Books 1998  
ISBN 0 7176 1231 7

*Slips and trips - guidance for employers on identifying hazards and controlling risks HSG155* HSE Books 1996  
ISBN 0 7176 1145 0

*Health and safety in engineering workshops HSG129*  
HSE Books 1995 ISBN 0 7176 0880 8

*Preventing slips, trips and falls at work INDG255*  
(single copies free; ISBN 0 7176 1183 3 for priced packs of ten copies)

The future availability and accuracy of the publications listed in this Information Sheet cannot be guaranteed.

Problem: Temperature too low or too high	
<b>Hazards:</b>	Worker fatigue, probably leading to mistakes which could cause accidents. Loss of dexterity in cold conditions, particularly if combined with wet, may cause problems in handling hazardous materials.
<b>Causes:</b>	Poor heating or none at all, or inadequate maintenance of heating equipment can cause temperatures which are too low; inadequately designed heating, incorrectly adjusted controls, poor ventilation or humidity control can cause/contribute to uncomfortably high temperatures.
<b>Remedies:</b>	As aim is to provide thermal comfort for employees at their work stations, localised control of temperature is more important than maintenance of overall room temperature; improved localised heating, especially in sedentary work areas may be required; preventive maintenance and prompt attention to breakdowns; improved ventilation may be required.
<b>Comments:</b>	Workplace Regulations require provision of thermometers for employees to determine temperature. Worker fatigue may also result in poor quality work or damage to equipment.

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Broad Lane, Sheffield S3 7HQ.

HSE home page on the World Wide Web:  
<http://www.open.gov.uk./hse/hsehome.htm>

<p>This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.</p>
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