



Health and Safety Guidance for the Safe Management of Design and Technology in Schools

Version 2

1. Introduction

This guidance has been written to assist schools on the safe management of design and technology. It is aimed at Headteachers, Heads of Department, Subject Leaders and Design and Technology staff.

The guidance has been produced in conjunction with **British Standard 4163:2014 - Health and Safety for Design and Technology in Schools and Similar Establishments – Code of Practice**. The standard is regarded as **best practice** within the industry and must be followed by schools.

Copies can be purchased from the Design and Technology Association at www.data.org.uk or from the BSI shop at <http://shop.bsigroup.com>

The Code of Practice provides general guidance on:

- Health and safety management
- Specific guidance on the safe use of equipment and machinery, including risk assessment
- Machine tools, materials and chemicals, and personal protective equipment.
- Class sizes, room layout, lighting, flooring, signage etc.
- Details of the Design and Technology Association Health and Safety Training and Accreditation Scheme

Current guidance published by the Health and Safety Executive (HSE), the [Design and Technology Association](#), [CLEAPSS](#) and the Department for Education (DfE) are sources of information that schools should use to assist them with the safe management of design and technology.

Some aspects of this guidance will be more relevant to activities within a secondary school; however the principles of this guidance can be followed and adopted by primary schools as well.

2. Legal Environment

The Health and Safety at Work etc. Act 1974 places a responsibility on the employer to ensure a safe place of work and a safe working environment. The Management of Health and Safety at Work Regulations requires the assessment of risk to the health and safety of employees and pupils in design and technology, ensuring steps are taken to protect their health, safety and welfare.

The Provision and Use of Work Equipment Regulations (PUWER) requires risks from equipment and machinery that employees and pupils use, to be prevented or controlled, by ensuring equipment is suitably maintained and sufficient training is provided for those that use it. Access to dangerous parts of machinery must be prevented where practicable.

The Control of Substances Hazardous to Health (COSHH) Regulations requires the control of substances that can harm employees and pupils, and to ensure that exposure to any dust, mist, fume, vapour or gas that is hazardous to health be either prevented or, where not reasonably practicable, adequately controlled.

3. Risk Assessment

Risk assessment is an **important** part of health and safety within design and technology and must be applied to the working environment, equipment, machinery, processes, techniques and activities taking place.

Risk assessments **must** be completed for design and technology activities, and for the use of equipment and machinery to identify all foreseeable hazards and risks. All activities, process and techniques within design and technology must form part of the risk assessment process.

When completing risk assessments, information contained in **British Standard 4163 Code of Practice** must be used to help identify the hazards and risks associated with using equipment and machinery or processes, and to ensure that all appropriate control measures have been implemented. Current guidance from CLEAPSS model risk assessments may also assist.

Risk assessments must also be **adapted** to the local environment, taking into account specific hazards relating to the tool, equipment, machinery, and process, using manufacturers/suppliers instructions and guidance where relevant.

Other factors to be considered within the risk assessment process for design and technology activities may include:

- Training and competence of staff and pupils; including any specific equipment and machinery prohibited for use by pupils.
- Supervision and management arrangements.
- Facilities and room layout.
- [Hazardous noise](#)
- Use of workshops/workrooms as teaching areas.
- Overcrowding of pupils, exceeding recommended numbers for practical classes. (**British Standard 4163 Code of Practice** provides specific guidance on class sizes).
- Suitability of year group; behavioural difficulties, special needs, language barriers.
- Provision of safety signs.
- Whether the particular activity can be done by pupils or be carried out as part of a class demonstration instead.
- Preparation and clearing away of materials, including any other necessary safety precautions that may need to be followed by those involved, e.g. procedures to follow in the event of an emergency, and what measures may need to be taken to ensure they are dealt with effectively, e.g. fires, gas leaks.

Activities carried out by technicians and other staff, e.g. handling of chemicals, manual handling tasks etc. must also be considered in the risk assessment process.

The [WCC Risk Assessment Policy](#) and [guide](#) provides further information on the completion of risk assessments, including an [assessment form](#) for schools to use to record the **significant** findings of the assessment.

Findings of risk assessments should be communicated to relevant staff and others who are likely to be affected. Persons carrying out risk assessments must be **competent**.

Risk assessments must be kept up-to-date and be regularly reviewed at least annually or sooner where required, particularly if circumstances change.

4. Health and Safety Training/Competence

Health and safety training is essential to ensure that staff and pupils are **competent** to carry out design and technology activities **safely and without risk to health**.

Inductions for new staff should take place which should cover key areas such as risk assessment, emergency arrangements, first aid and accident reporting, local workshop/workroom rules, use of tools, equipment and machinery, including written operating instructions and inspection, maintenance and cleaning. Other areas such as the use of personal protective equipment should also be considered.

Training for staff must include both local procedures within the department and completion of **formal practical training** and the attainment of qualifications to national standards. Competence will also include appropriate and relevant industry experience.

5. Health and Safety Training Standards – Design and Technology Association

In line with the Design and Technology Association Health and Safety Training Standards, all secondary school teaching staff and support staff within design and technology must attain the **Secondary Core Level in Design and Technology (SCHS) qualification**.

Those involved in any aspects of food handling should have at least a recognised food safety certificate.

In addition, for their specialist area, teaching staff and support staff must attain the following specialist qualifications through the D&T Association:

- **Secondary Food Technology (SFHS)**
- **Secondary Systems and Control (SSHS)**
- **Secondary Resistant Materials (SMHS)**
- **Secondary Textile Technology (STHS)**

The following specialist extension level qualifications for resistant materials must be completed as well where specific equipment/machinery is being used:

- **Wood Sawing Machines (S1HS)**
- **Centre Lathe for Metal Cutting (S2HS)**
- **Casting Non-Ferrous Metals (S3HS)**
- **Metal Arc Welding (S4HS)**
- **Oxy-acetylene Welding and Cutting (S5HS)**
- **Milling Machines and Machining Centre (S6HS)**
- **Wood Turning Lathe (S7HS)**
- **Planer/Thicknesser Machine (S8HS)**
- **Portable Power Tools (S9HS)**
- **Grinding and Sharpening (S10HS)**

Health and Safety Training for Site Staff – using Portable Power Tools (S11HS) to demonstrate competency in the safe and correct use of tools and equipment in the workplace should also be considered.

Health and Safety Training for Design and Technology Technicians (S12HS) is also available to provide both new and existing workshop technicians with the essential knowledge and understanding of health and safety that will help them to provide quality support to staff and pupils.

The completion of the training above and subsequent qualifications will involve staff being accredited by Registered Design and Technology Health and Safety Consultants (RDTHSC).

Schools can arrange this training for staff by contacting a RDTHSC from the directory published on the D&T Association's website at www.data.org.uk. Refresher/update training and re-accreditation must take place at least every **five years**.

WCC also recommend attendance on relevant CLEAPSS training courses for design and technology teachers and technicians in secondary schools. More information is available on the CLEAPSS website at www.cleapss.org.uk.

Primary schools are also encouraged to join the primary health and safety (PHS) part of the accreditation scheme for trainees taking design and technology as a specialist course or where there are specific coordinators/subject leaders for design and technology within a primary school.

For more information on training requirements refer to the [D&T Association Health and Safety Training Standards](#).

6. Training / awareness for pupils

Pupils must be made aware of the hazards and risks associated with design and technology activities, including the use of tools, equipment and machinery.

Schools must ensure a process is in place for pupils to be **trained and instructed** in safe operating methods by a **competent** member of staff who has the necessary training and experience (as covered above).

Pupils must be **assessed** as mature and competent before using tools, machinery and equipment and must be continuously **supervised**. A record of this training and instruction to pupils **must be recorded**.

British Standard 4163 Code of Practice provides a list of equipment/machinery which is prohibited for use by pupils and those that may be used by pupils following an assessment to demonstrate that they are competent, under suitable instruction and continuously supervised by a competent member of staff.

7. Maintenance, Inspection and Testing of Equipment & Machinery

The Provision and Use of Work Equipment Regulations (PUWER) requires work equipment to be maintained in a safe condition. In compliance with this duty all equipment and machinery used by staff and pupils must be maintained, inspected and where necessary tested.

Visual checks

Prior to use, equipment and machinery must be **visually** checked by a **competent** person in school, at least on a daily basis when equipment/machinery is due to be used.

The type of checks made will vary dependent upon the type of equipment/machinery but must include checks to determine the safe use and operation as prescribed by manufacturers instructions and guidance and information contained in the current **British Standard 4163 Code of Practice**.

Current guidance and information published by CLEAPSS on machinery checks may also assist.

Checks may include although not limited to the operation of emergency stop buttons; shut down facilities; control of electrical supplies; **guarding of machinery**; protection devices, dust extraction; storage of highly flammables; adequate cleaning of instruments; condition and wear of safety critical components; protection appliances used jigs, holders, push-sticks etc.

Checks of the general working environment must also be undertaken, to check on other areas such as floor and work surfaces, safety signage etc.

Schools **must** have a system in place to evidence visual checks undertaken. A **documented** maintenance check and record will enable effective management of the equipment/machinery and its use.

Defective equipment must be taken out of use, discarded or repaired by a **competent** person.

Formal maintenance, inspection and testing

In addition to visual checks, schools are responsible for identifying equipment and machinery that must be formally inspected and tested in accordance with relevant legislation and manufacturer's guidance. Information in **British Standard 4163 Code of Practice** should also be referred to.

Formal inspection and maintenance of equipment and machinery must be carried out by a **competent** contractor at periods no greater than **twelve months** or sooner, dependent or sooner dependent upon manufacturer's instructions and guidance.

The type of checks undertaken will vary dependent upon the type of equipment/machinery but must include checks to determine the safe use, operation and maintenance as prescribed by manufacturer's instructions and guidance as well as information stated in the current **British Standard 4163 Code of Practice** and other relevant standards.

Checks may include although not limited to the operation of emergency stop buttons shut down facilities; control of electrical supplies; portable electrical appliance testing; **guarding of machinery**; protection devices; condition and wear of safety critical components; relevant and adequate cleaning and lubrication of parts.

Records of formal maintenance, inspection and testing of equipment and machinery must be retained by schools and be accessible. **Remedial actions must be recorded**, prioritising any areas of improvement needed in compliance with legal requirements and/or best practice.

Defective equipment must be taken out of use, discarded or repaired by a **competent** person. Schools **must** take action from any recommendations given and ensure a record is made.

8. Local Exhaust Ventilation (LEV)

LEV is an engineering control system to reduce exposure to airborne contaminants from the use of equipment and machinery that can harm staff and pupils such as dust, mist, fume, vapour or gas. It works by drawing in the contaminant away from the breathing zones of staff and pupils into a hood and ductwork connected to an extract fan.

Schools must follow the guidance from the HSE on the safe management of local exhaust ventilation systems and dust extraction at www.hse.gov.uk/lev/

9. Wood Dust

The Control of Substances Hazardous to Health (COSHH) Regulations requires schools to protect staff and pupils from the risks of wood dust.

Schools must follow the guidance from the HSE on the safe management of wood dust at www.hse.gov.uk/woodworking/

The [WCC COSHH Policy](#) and [guide](#) provide further information on the completion of COSHH risk assessments, including an [assessment form](#) for schools to use. For further advice and guidance, contact the WCC County COSHH Officer email coshh@warwickshire.gov.uk

10. Monitoring Arrangements

Proportionate monitoring arrangements should be in place to ensure health and safety arrangements remain **effective**.

[CLEAPSS](#) have produced a guidance document on auditing health and safety in secondary design and technology departments which schools can use to assist them to maintain standards.

11. Further information and advice

All health, safety and wellbeing information is available on the school's health and safety document library on www.warwickshire.gov.uk/schoolhdocs

Alternatively contact the Health, Safety and Wellbeing Service on healthandsafety@warwickshire.gov.uk telephone 01926 476803.