Technology: Risk Assessment Title: **Plasma Arc Cutting** FEBRUARY2016

**This is a generic Risk Assessment that must be modified to suit your place of work**. The Risk Assessment modifications should take into consideration the activity, age/stage/pupil ability, department/working environment and the experience of the teacher in charge. If Control Measures Required as described are implemented the risk is reduced to an acceptable level for mainstream students.

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| **Identify the Hazards** | **Who is at Risk?** | **What is the Harm?** | **Activity Taking Place** | **Control Measures Required** | **Additional Information** |
| **Employees should be made aware of the following hazards.**1. Ultra-Violet Radiation2. Hot Sparks3. Sparks and Splatter4. Explosive Vapours5. Electric Shock6. Trip Hazard7. Burns8. Toxic Fumes9. Unsupervised Use | Teachers, technicians and studentsTeachers, technicians and studentsTeachers, technicians and studentsTeachers, technicians and studentsTeachers, technicians and studentsTeachers, technicians and studentsTeachers, technicians and studentsTeachers, technicians and studentsUser | **Ultra-violet radiation can cause eye damage.****Hot sparks can cause fires or burns to nearby articles, etc.****Sparks and splatter produced from cutting.****Articles being cut can release explosive vapours.****The equipment can present an electric shock hazard.****Leads and hoses could be tripped over.****Jewellery can conduct electricity that could induce heating and cause burns.****Toxic fumes could be generated by the cutting process.****Unsupervised use.**  | Plasma Arc CuttingPlasma Arc CuttingPlasma Arc CuttingPlasma Arc CuttingPlasma Arc CuttingPlasma Arc CuttingPlasma Arc CuttingPlasma Arc CuttingPlasma Arc Cutting | **Plasma Arc Cutting should only be taught by appropriately qualified and competent Technology teachers and technicians.**Users and observers of plasma arc cutting should be protected against glare and sparks by the use of appropriate eye protection or face shields. Surrounding surfaces should be non-reflective so that glare is not transmitted out of the intermediate area of the cutter.Users of plasma arc cutting equipment should ensure that they are wearing appropriate PPE protective clothing covering all parts of the body. Overalls should be self-extinguishing to BS EN 531 and BS EN 470-1. Users should ensure that any flammable articles are kept well away from any cutting operations. Long hair should be tied back securely.Plasma cutting should be done over a sand filled container.LEV should be available and activated to remove any fumes.Plasma Arc Cutting equipment should be regularly checked and included in a planned annual maintenance programme that should included all appropriate safety tests.Trailing leads and hoses should not become entangled with the operator, the cutting equipment or others in the vicinity.Jewellery should not be worn when plasma arc cutting.LEV should be available and activated to remove any fumes.Plasma arc cutting must only be completed under the supervision of qualified and competent Technology teacher or technician. Equipment must be securely stored. The cutting up of tanks or any other closed containers should not be undertaken. | Reference BS 4163:2014For more information on Plasma Arc Cutting in schools contact SSERC.Others in the room must be taken into consideration when plasma arc cutting. Suitable eye protection should be provided if necessary.Leads and hoses should be checked before each use. |
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