**Technology Tools Matrix – Levels of Risk DATTA Vic recommendation - 2016**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Portable power tools** | | | | | | |
| Tool name | Low risk | Medium risk | | High risk | Restricted | VET |
| **General** |  | | | | | |
| * Cordless drill |  |  |  |  |  |  |
| * Electric drill (10mm chuck) |  |  |  |  |  |  |
| * Electric drill (greater than 10mm bit) |  |  |  |  |  |  |
| * Electric soldering iron |  |  |  |  |  |  |
| * Hot melt glue gun (low temp) |  |  |  |  |  |  |
| * Jigsaw (cordless) |  |  |  |  |  |  |
| * Jigsaw (with cord) |  |  |  |  |  |  |
| * Orbital sander |  |  |  |  |  |  |
| * Random orbital sander |  |  |  |  |  |  |
| * Delta sander |  |  |  |  |  |  |
| * Scroll saw |  |  |  |  |  |  |
| * Screwdriver (battery) |  |  |  |  |  |  |
| **Wood** | | | | | | |
| * Belt sander, smaller than 80mm |  |  |  |  |  |  |
| * Belt sander, 105mm |  |  |  |  |  |  |
| * Biscuit joiner |  |  |  |  |  |  |
| * Circular saw 190mm in a fitted track |  |  |  |  |  |  |
| * Domino jointer |  |  |  |  |  |  |
| * Electric planer |  |  |  |  |  |  |
| * Reciprocating saw |  |  |  |  |  |  |
| * Router (with fence, template, or ball cutter) |  |  |  |  |  |  |
| * Router (plunge, without template or guard fence) |  |  |  |  |  |  |
| * Router (plunge router inverted in table) |  |  |  |  |  |  |
| * Veneer trimmer |  |  |  |  |  |  |
| * Wood carving tools (e.g. “Arbotech”) |  |  |  |  |  |  |
| **Metal** | | | | | | |
| * Angle (disc) grinder, smaller than 115mm |  |  |  |  |  |  |
| * Angle (disc) grinder, 115mm + |  |  |  |  |  |  |
| * LPG Propane Brazing equipment |  |  |  |  |  |  |
| * Nibbler shears |  |  |  |  |  |  |
| * Oxy acetylene heating/cutting/welding |  |  |  |  |  |  |
| * Power hacksaw |  |  |  |  |  |  |
| * Spot welder (portable |  |  |  |  |  |  |
| * Tube or pipe bender |  |  |  |  |  |  |
| **Plastic** | | | | | | |
| * Plastic strip heater/bender |  |  |  |  |  |  |
| * Small toaster oven |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Fixed machinery** | | | | | | |
| Tool name | Low risk | Medium risk | | High risk | Restricted | VET | |
| **General** |  |  |  |  |  |  | |
| * Bench grinder (pedestal) |  |  |  |  |  |  | |
| * Bench polishing/buffing wheel |  |  |  |  |  |  | |
| * Drill – vertical (bench or pedestal) |  |  |  |  |  |  | |
| * Laser cutter |  |  |  |  |  |  | |
| **Wood** | | | | | | |
| * Bandsaw |  |  |  |  |  |  | |
| * Belt sander - linisher |  |  |  |  |  |  | |
| * Belt and disc combination sander |  |  |  |  |  |  | |
| * Disc sander |  |  |  |  |  |  | |
| * Dowelling/Morticing machine |  |  |  |  |  |  | |
| * Docking/drop/slide saw (less than 270mm) |  |  |  |  |  |  | |
| * Compound sliding mitre saw |  |  |  |  |  |  | |
| * Dowelling machine / horizontal borer |  |  |  |  |  |  | |
| * Drum sander |  |  |  |  |  |  | |
| * Mitre saw (small, with work-piece clamps) |  |  |  |  |  |  | |
| * Surface/ planer jointer (buzzer) |  |  |  |  |  |  | |
| * Panel saw / Rip saw / Bench saw |  |  |  |  |  |  | |
| * Panel saw (sliding table |  |  |  |  |  |  | |
| * Portable circular saw |  |  |  |  |  |  | |
| Tool name | Low risk | Medium risk | | High risk | Restricted | VET | |
| * Radial arm saw |  |  |  |  |  |  | |
| * Router table sliding |  |  |  |  |  |  | |
| * Router table sliding (FESTO) |  |  |  |  |  |  | |
| * Thicknesser |  |  |  |  |  |  | |
| * Spindle moulder |  |  |  |  |  |  | |
| * “Triton” work bench (used as spindle moulder) |  |  |  |  |  |  | |
| * “Triton” work bench (used as dovetail or biscuit cutter) |  |  |  |  |  |  | |
| * Vertical spindle (bobbin) sander |  |  |  |  |  |  | |
| * Vertical panel saw (wall) |  |  |  |  |  |  | |
| * Wood lathe |  |  |  |  |  |  | |
| * Wood shaper |  |  |  |  |  |  | |
| **Metal** | | | | | | |
| * Abrasive cut-off saw |  |  |  |  |  |  | |
| * Band saw - metal |  |  |  |  |  |  | |
| * Bending machine (manual) |  |  |  |  |  |  | |
| * Bench shears |  |  |  |  |  |  | |
| * CNC Lathe |  |  |  |  |  |  | |
| * CNC Milling machine |  |  |  |  |  |  | |
| * Mill-drill machine |  |  |  |  |  |  | |
| * Electric arc welder (stick) |  |  |  |  |  |  | |
| * Electro-magnetic folder (Magna bender) |  |  |  |  |  |  | |
| * Guillotine – powered or manual |  |  |  |  |  |  | |
| * Linishing attachment on pedestal grinder |  |  |  |  |  |  | |
| * Metal cold circular saw |  |  |  |  |  |  | |
| * Metal Lathe |  |  |  |  |  |  | |
| * Metal cutting horizontal bandsaw |  |  |  |  |  |  | |
| * MIG welder |  |  |  |  |  |  | |
| * Milling machine |  |  |  |  |  |  | |
| * Panbrake bending machine |  |  |  |  |  |  | |
| * Plasma cutter |  |  |  |  |  |  | |
| * Spot welder (fixed) |  |  |  |  |  |  | |
| * Tube or pipe bender |  |  |  |  |  |  | |
| **Plastic** | | | | | | |
| * Vacuum former |  |  |  |  |  |  | |
| * 3D Printer |  |  |  |  |  |  | |

**Restricted machines**

Schools are strongly advised to seek alternative methods of achieving curriculum aims through the use of safer plant however, if schools continue to utilise restricted plant with students they must:

* Complete and document a risk assessment of their technology workshop facility
* Undertake and document a plant risk assessment for each restricted item of plant in use

To use restricted machines, students must:

* Be undertaking a VCE or VET study
* Complete rigorous and documented training and testing
* Be trained, tested and supervised by a teacher who has successfully completed the Safe Use of Machinery course (22231VIC)

**Levels of risk**

Year levels have not been applied to the machinery list as schools differ in terms of the time allowed for Technology at each level, and the competence and maturity of their students. Technology faculties need to use the guide to determine when it is appropriate to introduce machinery to class levels and individual students in their school.

**Recommendations**

* **Low risk level -** appropriate for an introductory level of learning
* **Medium risk level** – appropriate for students with some experience and competence in the material area
* **High risk level**  - appropriate for students with a higher level of experience, competence and maturity, requires a higher level of training, testing and supervision

Regardless of risk level, students should be:

* properly trained in all machines before use. Training involves demonstrations, and written, verbal and competency testing
* appropriately supervised when using machinery. Supervision can be:
  + general – teacher has student in line of sight
  + close – teacher is in the same room with minimal distraction (a small number of machines being used at a time)
  + one-to-one

***Documentation of student machinery safety testing should be kept in the school for 7 years.***