



An Roinn Oideachais  
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Department of  
Education and Skills

# Engineering

## Equipment List and Specification

# Engineering Equipment List A

## Section 1: Drawing and Design

| Code<br>Quantity   | Description and Specification   | Cost<br>€ |
|--------------------|---|-----------|
| ENG/A/101<br>1     | Set of (magnetic) drawing equipment, for (magnetic) chalkboard, to include (i) compass with steel point (500mm), (ii) 60°/30° set square (500mm), (iii) 45° set square (500mm), (iv) protractor (425mm) and (v) heavy duty rule with bevelled edges (1000mm).                                     |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/102(A)<br>25 | T-squares: A2 size, tape blade, best quality hardwood, with maple or acrylic edges to blade; blade screwed and dowelled to stock or equal.  |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| <b>OR</b>          |   |           |
| ENG/A/102(B)<br>25 | Stainless steel T-square with fixed light cast aluminium head, brushed blade with low reflectance.  |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/103<br>24    | Portable Desktop Drawing Board, A2 size, solid core/particle board/multi-ply, white high pressure laminate above and below, pvc edges and square corners, with rubber feet. Simple robust mechanism to allow use at 0° and 20°, with rubber tractor grip to facilitate overhanging of table edge. |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/104<br>24    | Graphics/DCG wooden box set, to come with 4" acrylic protractor, 60°/30° & 45° Set Squares (transparent heavy duty, non-brittle plastic, with bevelled edge and open centre. Sizes: 200mm, 2mm thick), quickset adjustable compass, H and 2H pencils, Vinyl eraser, Metal sharpener and Clips.    |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/105<br>2     | Combination set, with centre head, square head, protractor and 300mm rule.  |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/106<br>24    | Scaled rule, acrylic, 300mm, suitable for graphics/drawing  |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/107<br>25    | Engineers stainless steel rule, pearl chrome finish, 300mm long, graduated inmm.  |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/108<br>25    | Engineers stainless steel rule, pearl chrome finish, 150mm long, graduated inmm.  |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/109<br>1     | Flexi-curve, suitable for technical graphics work.  |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/110<br>1     | French curves, set of three, moulded plastic with ellipse form.   |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/111<br>1     | Erasing shield, stainless steel type.   |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/112<br>1     | 50 m Surveyor's Fibre Measuring Tape.   |           |
|                    | Manufacturer: _____ Catalogue No.: _____  |           |

|                        |  |                |  |
|------------------------|--|----------------|--|
| ENG/A/113<br>25        | Cutting knife, scalpel type with disposable blades.                                    |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/114<br>25        | Cutting mat, A3 size, plastic, self-repairing.   |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/115<br>30        | Show-me boards, A3 gridded, with dry wipe pens and eraser.                             |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/116<br>25        | Scissors 250mm stainless steel.  |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/117<br>24        | Scissors 140mm, 20 no. right handed and 4 no. left handed.                             |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/118<br>2         | Spray mount 400ml.   |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/119<br>6 of each | Ready mixed water-soluble paint 500ml (red, green, brown, black, blue, yellow, white). |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/120<br>10        | White foam board 3mm thick, 70x100cm.  |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/121<br>2         | 5 m Pocket Measuring Tape with 19mm blade.   |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/122<br>12        | Glue guns and 100 glue sticks.   |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |
| ENG/A/123<br>1         | Electronic Label maker, complete with tapes.   |                |  |
|                        | Manufacturer:  | Catalogue No.: |  |

## Section 2: General Workshop Equipment and Tools

| Code<br>Quantity | Description and Specification   | Cost<br>€ |
|------------------|---|-----------|
| ENG/A/2001<br>24 | Engineer's bench vice, cast iron with c.100-125mm steel jaws.               |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2002<br>24 | Pair of fibre grips for ENG/A/201.  |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2003<br>24 | Engineers ball pein hammer, weight c.500 g (1 lb).                          |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2004<br>4  | Claw hammer, tempered/hardened head, wood/metal handle, 500 g (1 lb).       |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2005<br>4  | Carpenters mallet, c.115mm.   |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2006<br>24 | Engineers steel try square, blade 120mm min.                                |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2007<br>4  | Woodwork try-square, blade length: 150mm min.                               |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2008<br>24 | Engineers spring dividers, c.100-150mm.                                     |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2009<br>24 | Engineer's fully integrated scribe, double ended, c.175mm.                  |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2010<br>24 | Engineers centre punch, c.100mm.  |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2011<br>12 | Engineer's jenny callipers, c.125mm, firm friction joint, adjustable point. |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2012<br>12 | Chisel, flat, c.150mm long.   |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2013<br>24 | Hacksaw frame, 300mm, adjustable or fixed type.                             |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2014<br>6  | Junior hacksaw frame.   |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2015<br>12 | Tenon saw, c.250mm - 300mm, stiffening rib.                                 |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2016<br>24 | Hand file, 250mm long, smooth grade, double cut.                            |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2017<br>24 | Hand file, 250mm long, bastard grade, double cut.                           |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2018<br>24 | File card (wooden base type), c.100mm x 50mm.                               |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2019<br>5  | Universal bevel protractor, c.150mm blade.                                  |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2020<br>6  | Surface plate, c.200mm-300mm square or rectangular, machined surfaces.      |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |
| ENG/A/2021<br>6  | Surface gauge, adjustable beam, scribe, column c.200mm.                     |           |
|                  | Manufacturer:                      Catalogue No.:                           |           |

|                 |   |                |  |
|-----------------|---|----------------|--|
| ENG/A/2022<br>4 | V-block and clamp, min. clamping capacity 25mm.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2023<br>2 | Centre square, capacity 40-50mm.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2024<br>2 | Toolmaker's clamp, c.100mm.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2025<br>4 | Precision vernier caliper, capacity c.150mm, dial reading 0.02mm.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2026<br>4 | Precision vernier caliper, capacity c.150mm, digital reading.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2027<br>4 | Precision micrometer, capacity 0-25mm.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2028<br>1 | Internal micrometer set. Capacity: c.25-55mm complete with extension rods, spacing collar and fitted case: accuracy 0.01mm. |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2029<br>1 | Vernier depth gauge, c.150mm blade, reading 0.02mm.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2030<br>1 | Precision micrometer, capacity 25-50mm.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2031<br>1 | Universal dial test indicator, dial graduated to read 0.01mm. Range c.8mm.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2032<br>1 | Magnetic base holder for dial test indicator.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2033<br>1 | Set of telescopic gauges, complete with case.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2034<br>1 | Slotted angle plate, size: c. 113mm x 88mm x 75mm – open-ended type.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2035<br>1 | Feeler gauge, metric, e.g., 10 blades – 0.05mm-0.08mm.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2036<br>1 | .Radius gauge, metric.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2037<br>1 | Drill gauge, e.g., 0.5mm to 12mm x 0.5mm.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2038<br>1 | Screw pitch gauge, ISO forms, metric.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2039<br>4 | Engineer's outside spring caliper, c.100-150mm.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2040<br>4 | Engineer's inside spring caliper, c.100-150mm.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2041<br>1 | Wire gauge, 1-36 swg (0.19 – 7.6mm).  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2042<br>4 | Set(s) of assorted flat and Philips head screwdrivers with plastic handles.   |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |
| ENG/A/2043<br>4 | Combination pliers, c.200mm.  |                |  |
|                 | Manufacturer:   | Catalogue No.: |  |

|                 |  |                |  |
|-----------------|--|----------------|--|
| ENG/A/2044<br>4 | Heavy-duty electricians pliers with insulated handles, c.150mm.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2045<br>2 | Slip joint pliers, chrome finish, c.230mm.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2046<br>2 | Flat nose pliers, c.160mm, insulated handles.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2047<br>2 | Round nose pliers, c.160mm, insulated handles.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2048<br>4 | Vice grips, c.250mm, lever release.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2049<br>2 | Sheet-metal vice grips, c.250mm, lever release.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2050<br>4 | Hand vice, spring type, c.100mm length.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2051<br>2 | Adjustable spanner, chrome finish, c.200mm.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2052<br>2 | Set, combination spanners (ring/open jaw ended), metric: e.g., 6 x 7 to 18 x 19, chrome finish.                                      |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2053<br>1 | Set of bi-hex sockets and accessories (metric: e.g., 10 to 32 x 2mm).  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2054<br>2 | Set of allen keys, e.g., 3mm - 10mm.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2055<br>2 | Riveting tool set, to include, snap, set and bolster to suit 3mm rivets.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2056<br>2 | Riveting tool set, to include, snap, set and bolster to suit 5mm rivets.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2057<br>2 | Riveting tool set, to include, snap, set and bolster to suit 6mm rivets.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2058<br>2 | Pop riveting kit, complete with pliers and assorted rivets, industrial grade.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2059<br>2 | Set of number stamps, 3mm, set of 9, Grade A.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2060<br>2 | Set of number stamps, 5mm, set of 9, Grade A.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2061<br>2 | Set of letter stamps, 3mm, set of 27, Grade A.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2062<br>2 | Set of letter stamps, 5mm, set of 27, Grade A.   |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2063<br>1 | Set of pin punches, e.g., 1.5mm to 8mm, c.100-150mm long.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2064<br>4 | Set of stocks, dies, taps and wrenches, ISO thread form, e.g., 6mm to 12mm x 1mm. Circular die pattern. Set complete in strong case. |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2065<br>1 | Hand held engraver, variable speed.  |                |  |
|                 | Manufacturer:  | Catalogue No.: |  |

|                              |   |                |
|------------------------------|---|----------------|
| ENG/A/2066<br>6 of each set  | Set of three taps (taper, second and plug) for screw cutting 5mm ISO.<br>Set of three taps (taper, second and plug) for screw cutting 6mm ISO.<br>Set of three taps (taper, second and plug) for screw cutting 8mm ISO.<br><br>Adjustable tap wrench to suit. |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2067<br>6 of each set  | Circular dies for screw cutting 5mm ISO.<br>Circular dies for screw cutting 6mm ISO.<br>Circular dies for screw cutting 8mm ISO.<br><br>Stock to suit above dies.   |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2068<br>6              | Set of drills, HSS, parallel shank, 1.0 to 13mm x 0.5mm. Set in case.   |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2069<br>1              | Set of drills, HSS, M.T. shank, 14 to 25mm x 1mm.   |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2070<br>3              | Set of counter sink drills, HSS, 6, 8, 10mm. Parallel shank 90°.  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2071<br>2              | Set of c.5 hole-saws, complete with arbor, sizes from c.20mm to c.60mm diameter.  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2072<br>2              | Set of combination centre drills, HSS, No. 1, 2, 3, 4, 5, 6, and 7. 60° angle (Slocomb).  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2073<br>1              | Morse-taper sleeves, 3-2, 2-1.  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2074<br>1              | Parallel machine reamers, parallel shank, e.g., 6 to 12 x 2mm steps.  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2075<br>2              | Crosscut chisel, c.150mm.   |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2076<br>2              | Round nose chisel, c.150mm.   |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2077<br>2              | Diamond point chisel, c.150mm.  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2078<br>2              | Miniature side cutter pliers, spring leaf mechanism, c.150mm.   |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2079<br>2              | Miniature top cutter pliers, spring leaf mechanism, c.150mm.  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2080<br>4 of each size | Chisels (firmer):<br>6mm<br>10mm<br>18mm  |                |
|                              | Manufacturer:   | Catalogue No.: |
| ENG/A/2081<br>4 of each size | Chisels (bevel):<br>6mm<br>10mm<br>18mm   |                |
|                              | Manufacturer:   | Catalogue No.: |

|                  |  |                |  |
|------------------|--|----------------|--|
| ENG/A/2082<br>2  | Bench plane, smooth, 50mm cutter, adjustable for depth of cut/alignment.         |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2083<br>6  | Cast iron bench blocks, rough machined on one face, c. 250mm x c.200mm x c.50mm. |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2084<br>1  | Quarter litre manual pump oiler  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2085<br>1  | Combination oilstone, c.200mm, coarse and fine faces.                            |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2086<br>1  | Engineers steel try square, blade length 200-250mm.                              |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2087<br>24 | Hand files – 200mm bastard.  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2088<br>24 | Hand files – 200mm smooth.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2089<br>24 | Hand files – 150mm bastard.  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2090<br>24 | Hand files – 150mm smooth.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2091<br>24 | Half-round files – 250mm smooth.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2092<br>24 | Half round files – 250mm bastard.  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2093<br>24 | Half round files – 150mm smooth.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2094<br>24 | Half round files – 150mm bastard   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2095<br>24 | Round files – 200mm smooth.  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2096<br>24 | Round files – 200mm bastard.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2097<br>24 | Round files – 150mm smooth.  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2098<br>24 | Round files – 150mm bastard.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2099<br>24 | Square files – 200mm smooth.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2100<br>24 | Square files – 200mm bastard.  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2101<br>24 | Square files – 150mm smooth.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2102<br>24 | Square files – 150mm bastard.  |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |
| ENG/A/2103<br>24 | Three-square files – 200mm smooth.   |                |  |
|                  | Manufacturer:  | Catalogue No.: |  |



|                   |  |                |  |
|-------------------|--|----------------|--|
| ENG/A/2104<br>24  | Three-square files – 200mm bastard.            |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2105<br>24  | Warding files – 150mm smooth.                  |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2106<br>24  | Warding files – 150mm bastard.                 |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2107<br>6   | Piercing saw frames.                           |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2108<br>24  | Pack of blades for item ENG/A/2108.            |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2109<br>90  | File handle for 250mm file, plastic or wooden. |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2110<br>200 | File handle for 200mm file, plastic or wooden. |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2111<br>240 | File handle for 150mm file, plastic or wooden. |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2112<br>200 | Hacksaw blade, 300mm, 24 T.P.I.                |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2113<br>4   | Set of c.6/12 assorted needle files.           |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |
| ENG/A/2114<br>200 | Hacksaw blade junior type.                     |                |  |
|                   | Manufacturer:                                  | Catalogue No.: |  |

| Section 3: Power Tools |  |           |
|------------------------|--|-----------|
| Code<br>Quantity       | Description and Specification  | Cost<br>€ |
| ENG/A/301<br>2         | Rechargeable, minimum 18 V, Portable Cordless Drill with case, to include charger and two batteries.<br><br><i>Two year warranty.</i>    |           |
|                        | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/302<br>1         | Portable 12/24/110V 50 Hz c.600 W motor Orbital Sander with outlet compatible with Dust Extractor.<br><br><i>Two year warranty.</i>      |           |
|                        | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/303<br>1         | Portable 12/24/110 V 50 Hz variable speed double insulated electric hand Drill with 13mm Chuck and Key.<br><br><i>Two year warranty.</i> |           |
|                        | Manufacturer: _____ Catalogue No.: _____   |           |

## Section 4: Electronics and Control Technology

| Code<br>Quantity | Description and Specification   | Cost<br>€ |
|------------------|---|-----------|
| ENG/A/401<br>1   | Educational electronics teaching kit capable of allowing for the demonstration of a range (c.20) simple electronic circuits/systems such as fire alarm and motor controllers. Kit to be accompanied with associated guides/texts, and suitable for use with a class group of 24 students.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/402<br>6   | Digital multi-meter, auto-ranging frequency measurement, capacitance measurement and transistor test.<br>Voltage a.c and d.c – c.5 ranges each from 200 mV x 100 mV to 600 V x 1V<br>Current a.c and d.c – c.4 ranges each from 2 mA x 1 mA to 10 x 10 mA<br>Resistance – c.6 ranges from 200 R x 0.01 R to 20 M x 10 K<br>Capacitance – c.5 ranges from 2000 pF x 1 pf to 20 mF 10 nF<br>Frequency – c.5 ranges from 2 kHz x 1 Hz to 20 MHz x 100 kHz<br>Diode test<br>Continuity test<br>Transistor test NPN and PNP<br><br><b>Two year warranty.</b> |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/403<br>30  | Handheld, programmable micro-computer Kit. Individually-programmable LEDs, 2 programmable buttons, Physical connection pins, Light and temperature sensors, Motion sensors (accelerometer and compass), Wireless Communication, via Radio and Bluetooth, USB interface. It should have the capability to be coded from any web browser in Blocks, Javascript, Python or Scratch. Kit to include USB connector, battery cage and protector case.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/404<br>30  | All-in-one robotics board (for micro-computer specified in ENG/A/403).  |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/405<br>30  | Straight single row PCB pin headers, 2.54mm, 36-way (for micro-computer specified in ENG/A/403).  |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/406<br>30  | Edge connector breakout board (for micro-computer specified in ENG/A/403).  |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/407<br>90  | Jumper Wires 20cm Male / Female .   |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/408<br>90  | Alligator Clip with Pigtail (4 Pack).   |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/409<br>60  | Right Angle Geared Hobby Motor.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/410<br>60  | Linear Actuator kit.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/411<br>1   | Sensors for air and weather, colour and light, and sound (for micro-computer specified in ENG/A/403).   |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/412<br>60  | Mini 180 Degree Resin Gear Servo.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____  |           |

|                                  |   |                |  |
|----------------------------------|---|----------------|--|
| ENG/A/413<br>90                  | Plastic Component Box - 15 Grid.  |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/414<br>1                   | Move mini buggy kit (for micro-computer specified ENG/A/403).   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/415<br>10 of each          | Pack/kit of accessories suitable for electronics work (i.e., push-fit directly to miniature motor shafts):<br>Pack of c.10 plastic wheels, various diameter sizes (e.g., 30mm – 70mm)<br>Pack of c.10 plastic propellers, c.100mm diameter, 2 or 3 blades.<br>Pack of c.10 2mm steel shafting<br>Pack of c.10 3mm steel shafting<br>Pack of c.10 miniature pulleys, various diameter sizes (e.g., 8mm to 25mm)<br>Pack of c.10 plastic gears, various diameter sizes (e.g., 15mm to 40mm)<br>Pack of c.10 miniature worm gears. |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/416<br>24                  | Electric soldering iron, extra fine tip for electronics, complete with stand and sponge, min..30W, 220-240V.<br><br><b>Two year warranty.</b>   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/417<br>6                   | Temperature controlled electric soldering iron/station, complete with stand and cleaning sponge, c.50 W, 220-240V.<br><br><b>Two year warranty.</b>   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/418<br>24                  | Miniature electronics tool kit, to contain tools such as pliers, snips, wire strippers and screwdrivers, in appropriate case.   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/419<br>4                   | Helping-hands for soldering work.   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/420<br>8                   | LT variable voltage power supply unit, overload protection.<br>Performance (approx.):<br>DC – 0-25 V (no load) and 24V (8 A load)<br>AC – 0-25 V (no load) and 24V (8 A load)<br><br><b>Two year warranty.</b>  |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/421<br>2                   | De-soldering pump, portable type.   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/422<br>2 of each<br>colour | Single core wire, diameter, c.1.2mm x c.100 m length, to include:<br>Black reels, Red reels, Blue reels.  |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/423<br>2 of each<br>colour | Stranded wire, diameter, c.1.4mm x c.100 m length, to include:<br>Black reels, Red reels, Blue reels.   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/424<br>30                  | Extra flexible stranded wire, diameter, c.2.8mm x c.100 m length, to include: Red, and Black.   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/425<br>1                   | Ribbon cable reel of wire, e.g., 20-way rainbow, c.25 m length.   |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |
| ENG/A/426<br>24                  | Cable Mounting Sockets 20 way.  |                |  |
|                                  | Manufacturer:   | Catalogue No.: |  |

|   |   |                |
|---|---|----------------|
| ENG/A/427<br>50<br>50<br>50<br>50                     | Pack/kit of 4mm plugs and sockets, to include:<br>4mm Plug Red<br>4mm Socket Red<br>4mm Plug Black<br>4mm Socket Black  |                |
| Manufacturer:   |   | Catalogue No.: |
| ENG/A/428<br>30<br>30<br>30<br>30<br>30<br>30<br>300  | Pack/kit of battery holders and clips, to include:<br>2XAA<br>4XAA<br>2XC<br>4XC<br>2XD<br>4XD<br>PP3 battery snaps   |                |
| Manufacturer:   |   | Catalogue No.: |
| ENG/A/429<br>5<br><br>150<br>150<br>150<br>150<br>150 | Pack/kit of micro-miniature electrolytic capacitors, to include,<br>Variety capacitor kit suitable for simple electronic circuit building.<br><br>100uF 16v<br>220uF 16v<br>470uF 16v<br>1000uF 16v<br>2200uF |                |
| Manufacturer:   |   | Catalogue No.: |
| ENG/A/430<br><br>150 of each<br>type                  | Resistors, to include:<br>270R<br>1K<br>2K2<br>4K7<br>10K<br>22K<br>33K<br>100K<br>150K<br>1M   |                |
| Manufacturer:   |   | Catalogue No.: |
| ENG/A/431<br><br>30 of each type                      | Potentiometers, to include:<br>1K LIN<br>2200K LIN<br>10K LIN<br>47K LIN<br>100K LIN<br>1M LIN<br>100K LIN dual control (stereo)  |                |
| Manufacturer:   |   | Catalogue No.: |
| ENG/A/432<br>1  | Arm robot kit (for micro-computer specified in ENG/A/403).  |                |
| Manufacturer:   |   | Catalogue No.: |
| ENG/A/433<br><br>100 of each<br>type                  | Preset potentiometers (suitable for simple electronic circuit building), to include:<br>10K<br>22K<br>100K  |                |
| Manufacturer:   |   | Catalogue No.: |

|                                 |   |                |
|---------------------------------|---|----------------|
| ENG/A/434<br>80 of each type    | Miniature motors, to include:<br>High torque miniature motor, 3-6 V<br>High power, 12 V motor<br>Solar motor  |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/435<br>200                | Motor mount (e.g., self-adhesive) to suit miniature motors detailed in ENG/A/434.   |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/436<br>10                 | Miniature multi-ratio gearbox and motor (clearbox motor), assembled OR in kit form, motor to operate on c.1.5-4.5 V power supply.   |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/437<br>10                 | Miniature worm drive gearbox with motor, assembled or in kit form, motor to operate on c.1.5-4.5 V power supply.  |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/438<br>1000               | MES lamp (bulb), 6 V/60 mA, commercial grade.   |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/439<br>1000               | MES lamp (bulb) holder, solder tags at base.  |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/440<br>1000               | MES lamp (bulb) holder, spring loaded contact, fixing centres: c.23mm.  |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/441<br>100 of each colour | Pack/kit of assorted colours MES lamp holders, to include:<br>Red<br>Green<br>Orange  |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/442<br>200 of each item   | 5mm LED's and clips, to include:<br>Red<br>Yellow<br>Green<br>Flashing<br>5mm bezel panel clips (one piece).<br>Silicone rectifier diode IN4001 1A, 50V max.<br>Silicone rectifier diode IN5401 3A, 100V max<br>Seven segment LED display, common cathode, c.13mm |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/443<br>60                 | Light dependent resistor (ORP 12 specification)   |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/444<br>100<br>10          | Pack/kit of assorted sizes of strip-board, to include:<br>25mm x 64mm<br>119mm x 455mm  |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/445<br>50                 | Pack/kit of breadboard, to include:<br>400 Tie points.  |                |
|                                 | Manufacturer:   | Catalogue No.: |
| ENG/A/446<br>30 of each type    | Pack/kit of miniature relays, to include:<br>DPDT 5A<br>SPDT 5A<br>SPDT 10A<br>DPDT 8A  |                |
|                                 | Manufacturer:   | Catalogue No.: |

|   |  |                |
|---|--|----------------|
| ENG/A/447<br>50<br>50                         | Pack/kit of NTC thermistors, to include:<br>5 k ohm<br>2700 ohm  |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/448<br><br>100 of each type             | Pack/kit of general purpose transistors, to include:<br>ZTX321 NPN specification<br>BC108 NPN specification<br>BFY51 NPN specification<br>BC109 NPN specification<br>TIP121 Darlington NPN specification   |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/449<br>50<br>25<br>25<br>15<br>15<br>15 | Pack/kit of linear integrated circuits (ICs), to include:<br>555 Timer<br>741 Op Amp<br>3140 Op Amp<br>556<br>7400<br>7490   |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/450<br>25<br>25<br>100<br>25            | Pack/kit of miniature speakers, for example:<br>8 ohm<br>64 ohm<br>Buzzer, 6 V (leads)<br>Miniature piezo buzzer   |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/451<br><br>75 of each type              | Pack/kit of miniature switches, to include:<br>Miniature toggle SPST<br>Miniature toggle SPDT<br>Miniature rocker<br>Standard slide DPDTCO<br>Push to make<br>Push to break<br>Push latching<br>Tilt switch (mercury)<br>Reed switch with magnets<br>Microswitch button<br>Microswitch lever<br>Microminiature microswitch lever |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/452<br>50                               | Pack/kit of miniature thyristors, to include:<br>TIC106D specification   |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/453<br>100                              | Control knobs, to fit c.6mm shaft.   |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/454<br>10                               | Low-fume / colophony free solder, 500 g / 22 swg (0.71mm).   |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/455<br>6                                | Multiple drawer storage cabinets, plastic drawer type, wall mountable, c.60 drawer unit size.  |                |
|   | Manufacturer:  | Catalogue No.: |
| ENG/A/456<br>24                               | Multi-compartment boxes (e.g., plastic type), suitable for storing of electronics circuits / components.   |                |
|   | Manufacturer:  | Catalogue No.: |

|                        |   |                       |
|------------------------|---|-----------------------|
| <p>ENG/A/457<br/>2</p> | <p>PCB Drill and stand set complete with power supply output of drill 12 V to 18 V. Chuck capacity 0.6mm to 3.2mm. Input of power supply unit 220 V to 240 V.</p> <p><b>Two year warranty.</b></p>  |                       |
|                        | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| <p>ENG/A/458<br/>1</p> | <p>Set of Control technology teaching kits. Kits to simulate control of manufacturing processes (e.g. conveyor, sorter, pick and place) and/or examples of control technology used in society (e.g. Car park barrier, lifts, sliding doors). Kit to be accompanied with associated guides/texts, and suitable for use with a class group of students.</p> |                       |
|                        | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| <p>ENG/A/459<br/>1</p> | <p>Robotic control technology teaching kit. Kit to simulate a range of robotic control applications. Kit to be accompanied with associated guides/texts and suitable for use with a class group of students.</p>  |                       |
|                        | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| <p>ENG/A/460<br/>1</p> | <p>Electro-pneumatic teaching kit and suitable air compressor. Capable of allowing for the demonstration of a range of circuits/systems. Kit to be accompanied with associated guides/texts and suitable for use with a class group of students.</p>  |                       |
|                        | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| <p>ENG/A/461<br/>1</p> | <p>Pneumatic system construction and simulation software to include library of standard pneumatic symbols; educational site licence for min. 25 users.</p>  |                       |
|                        | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |



## Section 5: Structure and Mechanisms

| Code<br>Quantity                        | Description and Specification   | Cost<br>€ |
|---|---|-----------|
| ENG/A/501<br>1                          | Low cost construction set/kit, capable of allowing for the construction of models of various structures and mechanisms, e.g., bridges, towers, model automobiles, etc. A number to include appropriate power supply units.  |           |
|   | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/502<br><br>3 of each pack/<br>set | Pack/set of plastic gear wheels suitable for model building, preferably of the brass hub-type, to include:<br>Pack c.10 12 teeth<br>Pack c.10 18 teeth<br>Pack c.10 30 teeth<br>Pack c.10 58 teeth<br>Pack c.10 bevel gear<br>Pack c.10 worm gear                           |           |
|   | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/503<br><br>3 of each pack/<br>set | Pack/set of pulley's suitable for model building, preferably of the brass-hub type, to include:<br>Pack of c.10 pulley's c.20mm diameter<br>Pack of c.10 pulley's c.40mm diameter<br>Pack of c.10 pulley's c.60mm diameter  |           |
|   | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/504<br><br>10 of each pack        | Pack of shafting/shaft converters to suit TECH/A/501 and TECH/A/502, to include:<br>Pack of shaft converters (e.g., 6mm to 4mm and/or 4mm to 2mm)<br>Pack of shafts (e.g., 6mm and/or 4mm shafts).  |           |
|   | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/505<br><br>15 of each<br>pack/set | Pack/set of plastic/wooden wheels suitable for model building/ construction work, to include:<br>Pack plastic c.10 wheels c.60mm diameter<br>Pack plastic c.10 wheels c.50mm diameter<br>Pack wooden c.10 wheels c.25mm diameter<br>Pack wooden c.10 wheels c.50mm diameter |           |
|   | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/506<br><br>1 box of each          | M3 screws and nuts:<br>Box M3 screws 6mm, pack of 100<br>Box M3 screws 12mm, pack of 100<br>Box M3 screws 25mm, pack of 100<br>Box M3 nuts, pack of 100<br>Box M3 washers, pack of 500  |           |
|   | Manufacturer: _____ Catalogue No.: _____  |           |
| ENG/A/507<br><br>1 box of each          | M4 screws and nuts:<br>Box M4 screws 6mm, pack of 100<br>Box M4 screws 12mm, pack of 100<br>Box M4 screws 25mm, pack of 100<br>Box M4 nuts, pack of 100<br>Box M4 washers, pack of 500  |           |
|   | Manufacturer: _____ Catalogue No.: _____  |           |

## Section 6: Safety Equipment

| Code<br>Quantity | Description and Specification  | Cost<br>€ |
|------------------|--|-----------|
| ENG/A/601<br>1   | Wall-Mounted First Aid Cabinet c.370mm X c.24mm with hinged door and equipped with minimum 24 person first aid kit.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/602<br>1   | Set of minimum 6 / Laminated wall-mounted assorted Safety Signs.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/603<br>30  | Non-mist Safety Goggles, full ventilation, suitable for use over spectacles, kite marked to BS 2092.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/604<br>2   | Headband and ear cup type ear defenders. To be supplied with two sets of renewable sealing rings and to conform to EN352/BS5108. Attenuation to 20dB required. |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/605<br>12  | Clearways face shields with adjustable headbands. Full facial and eye protection while operating machine tools etc. Kite marked to BS2092.                     |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/606<br>30  | Student aprons suitable for workshop use.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/607<br>1   | Soap/hand cream dispenser.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/608<br>2   | Roll of Hazzard Warning Floor Tape, 50x3300mm, Yellow-Black.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/609<br>12  | Lightweight safety spectacles with fully adjustable side frames and clear side shields, fitted with replaceable lens to BS 2092.                               |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/610<br>6   | Pair Gloves for materials handlings, abrasion and cut resistant; oil, grease and dirt repellent.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/611<br>6   | Fume displacement unit, replaceable filter type, bench mounted, 230 V, 50 Hz.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/612<br>6   | Plastic bin, minimum 80 litres.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/613<br>1   | Roll of hand paper, 200mm wide, on roller stand.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/614<br>6   | Gas welding goggles, kite marked to BS 2092 and BS 1542.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/615<br>6   | Heavy duty chrome leather apron, complete with apron ties, suitable for hot metal working, e.g., welding, forging, casting, etc.                               |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/616<br>6   | Arc-welding auto-darkening helmet.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/617<br>2   | Pair heating resistant leggings for use during the metal casting process.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |

|                |   |                |
|----------------|---|----------------|
| ENG/A/618<br>2 | Soft soap/hand barrier cream dispenser, rechargeable type, suitable for wall mounting.  |                |
| ENG/A/619<br>4 | Portable Welding Screens freestanding, self-supporting panels constructed from tubular steel and green flameproof material conforming to BS 3119.20. Dimensions: Frame c.1.8m x c.1.2m; Screen: c.1.5m x c.1.2m.  |                |
| ENG/A/620<br>1 | Single Phase, double wound, transformer with earth metallic screen between windings. Mounted in robust carrying case. Input 230 V, 50 Hz. Output 110 V in 2 x 16 A sockets to CEE 17. Rating: 2 kVA. Unit to comply with Factories Act. (Electricity Regulations) of 1972.<br><br><b>Two year warranty.</b> |                |
|                | Manufacturer:   | Catalogue No.: |
|                | Manufacturer:   | Catalogue No.: |
|                | Manufacturer:   | Catalogue No.: |

| Section 7: Metal Heating Equipment and Accessories |   |        |
|--|---|--------|
| Code Quantity                                      | Description and Specification   | Cost € |
| ENG/A/701<br>1                                     | Smiths close mouth tongs, flat bit, and lightweight.  |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/702<br>2                                     | Smith bolt type tongs, c.10mm, lightweight.   |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/703<br>2                                     | Smiths square mouth tongs, c.10 m lightweight.  |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/704<br>1                                     | Soldering iron heating stove, chamber type, suitable for two irons. Supplied complete with pizod spark ignitor, burner, burner tray and temperature controller.   |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/705<br>2                                     | Soldering iron, straight with handle, c.220 g.  |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/706<br>2                                     | Soldering iron, straight with handle, c.500 g.  |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/707<br>2                                     | Soldering iron, hatchet with handle, c.500 g.   |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/708<br>1                                     | Gas fired kiln, max. temperature c.1000 °C. Overall dimensions c.420mm x c.300mm x c.245mm. Complete with pizod spark igniter, flame failure device, heat control valve, safety door. Temperature indicator, removable burner tray and refractory tile. (Type of gas supply available to be stated when ordering).<br><br><b>Three year on-site warranty to include parts and labour.</b> |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/709<br>1                                     | Tongs, scissor action, brass type, size: c.200mm.   |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |
| ENG/A/710<br>1                                     | Multi-use portable gas torch with gas container, fine flame adjustment, screw-on burner, safety checked and test burned.<br><br><b>Three year on-site warranty to include parts and labour.</b>   |        |
|  | Manufacturer: _____ Catalogue No.: _____  |        |

## Section 8: Sheet Metal and Polymer Equipment

| Code<br>Quantity | Description and Specification  | Cost<br>€ |
|------------------|--|-----------|
| ENG/A/801<br>2   | Tinmans folding bars, c.250mm  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/802<br>3   | Tinmans snips: straight, c.200mm.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/803<br>2   | Tinmans snips, straight, c.150mm.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/804<br>3   | Tinmans snips, curved, c.200mm.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/805<br>1   | Vacuum forming machine, bench top model, cut sheet size min. 250mm x min. 450mm. Electrics - 230 V, 50 Hz. |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/806<br>2   | Plastic faced hammer, c.25mm diameter head.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/807<br>2   | Copper and hide-faced hammer, c.40mm head.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/808<br>4   | Rawhide mallet, c.40mm diameter head.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/809<br>2   | Boxwood mallet, c.40mm diameter head.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/810<br>2   | Boxwood mallet, c.50mm diameter head.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/811<br>2   | Boxwood bossing mallet, c.50mm diameter head.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/812<br>2   | Boxwood bossing mallet, c.60mm diameter head.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/813<br>1   | Set of tinmans groovers, e.g., 5mm, 6mm, 7mm.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/814<br>6   | Steel wire brush, e.g., 4-row type, fitted with plain back.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/815<br>2   | Plannishing hammer, c.125 g.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/816<br>2   | Raising hammer, c.200 g.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/817<br>2   | Collet hammer, c.200 g.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/818<br>2   | Blocking hammer, c.200 g.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/819<br>2   | Doming hammer, c.150 g.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/820<br>2   | Repousse hammer, c.150 g.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |

|                |   |                |  |
|----------------|---|----------------|--|
| ENG/A/821<br>1 | Set of repousse punches.  |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/822<br>1 | Set of dotting punches.   |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/823<br>1 | Set of engravers, different shapes in set.  |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/824<br>1 | Doming block, c.75mm cube.  |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/825<br>2 | Leather sandbag, c.200mm dia.   |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/826<br>1 | Leather sandbag, c.250mm dia.   |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/827<br>1 | Magnetic folding machine, Capacity: 1250 x 1,6mm at 400 N/mm <sup>2</sup> , 230 volt.<br>To be supplied with: Wide clamping bar, narrow clamping bar, slotted clamping bar for shallow boxes, segmented clamping bar (finders), sheet support.<br><b>Three year on-site warranty to include parts and labour.</b> |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/828<br>1 | Guillotine – treadle type. Capacity in steel up to c.1.5mm, c.1000mm blade length.  |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/829<br>1 | Plastic dip coating unit. Minimum capacity 50 litres. Supplied complete with air blower and air pressure regulator together with 20 kg packs of two different colours of Polyethylene powder. Electrics: 1 pH, 230 V, 50 Hz.<br><b>Three year on-site warranty to include parts and labour.</b>                   |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/830<br>4 | Thermoplastic sheet strip heater, suitable for bending of thermo-plastic sheets up to c.6mm thick and up to c.500mm wide. 110 V, 50 Hz.<br><b>Three year on-site warranty to include parts and labour.</b>  |                |  |
|                | Manufacturer:   | Catalogue No.: |  |
| ENG/A/831<br>1 | Hot wire sculptor/cutter Electrics: 110/230 V, 50 Hz, voltage through the wire c.8 V.<br><b>Three year on site warranty to include parts and labour.</b>  |                |  |
|                | Manufacturer:   | Catalogue No.: |  |

## Section 9: Welding Equipment and Accessories

| Code<br>Quantity | Description and Specification  | Cost<br>€ |
|------------------|--|-----------|
| ENG/A/901<br>1   | Welding set with six nozzles, c.1 to 7.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/902<br>1   | Length of oxygen and acetylene hose, c.5 metres long x 8mm (or std) bore complete with standard fittings.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/903<br>1   | Set of flashback arrestors (one for acetylene, one for oxygen).<br><b>Three year on-site warranty to include parts and labour.</b>   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/904<br>1   | Acetylene two stage regulator.<br><b>Three year on-site warranty to include parts and labour.</b>  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/905<br>1   | Oxygen two stage regulator.<br><b>Three year on site warranty to include parts and labour.</b>   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/906<br>1   | Spindle key.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/907<br>1   | Rubber wheeled welding trolley suitable for two cylinders.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/908<br>1   | Set of tip cleaners.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/909<br>1   | MIG welding set, wire size c.0.6-1.2mm, OCV, c.46V, current range c.30-250A.<br><b>Three year on-site warranty to include parts and labour.</b>  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/910<br>1   | Electric arc welding set, fan cooled transformer output, c.220 A, 3 pH/1 pH, 5 kVA.<br><b>Three year on-site warranty to include parts and labour.</b>   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/911<br>1   | Welding kit to suit ENG/A/410 to include, electrode holder, earth clamp, chipping hammer, primary and earth cables and hand shield.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/912<br>1   | Spark Lighter.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/913<br>4   | G cramp, c.100mm.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/914<br>2   | G cramp, c.200mm.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/915<br>1   | Spot welding gun, portable and suitable for bench mounting. Capacity on mild sheet 0.5 +0.5mm min., 2 + 2mm max. thickness, max. length of arms c.500mm. Built in timer, 230V, 1 pH, 50 Hz, approx. weight 10 kg.<br><b>Two year warranty.</b> |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |

|                |                                |                |
|----------------|--------------------------------|----------------|
| ENG/A/916<br>6 | 150mm magnetic welding holder. |                |
|                | Manufacturer:                  | Catalogue No.: |



## Section 10: Pneumatics Equipment Control

| Code<br>Quantity | Description and Specification  | Cost<br>€ |
|------------------|--|-----------|
| ENG/A/1001<br>1  | Pneumatic modular board to allow for mounting of the following components ENG/A/1002-1010 below. |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1002<br>12 | Single-acting cylinder, c.20mm bore, c.50mm stroke.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1003<br>2  | Double-acting cylinder, c.20mm bore, c.50mm stroke.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1004<br>12 | Five port valve.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1005<br>12 | Flow control valves (restrictors).   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1006<br>12 | 3/2 pushbutton valves.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1007<br>6  | Visual indicators.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1008<br>6  | Limit switch (roller lever activated).   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1009<br>2  | Reservoir (45 cm <sup>3</sup> capacity).   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1010<br>2  | Manifold, c.8mm x c.4mm outlet.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1011<br>1  | Air compressor, c.8 bar, c.5 litres/m, c.24 litre receiver.<br><b>Two year warranty.</b>         |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1012<br>1  | Nylon tube, c.4mm diameter, red, 10 metres.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1013<br>1  | Nylon tube, c.4mm diameter, blue, 10 metres.   |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1014<br>1  | Nylon tube, c.4mm diameter, clear, 10 metres.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1015<br>2  | Safety cutter, to suit cutting of nylon tube at ENG/A/1012-1014 above.                           |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1016<br>12 | Equal T-connectors.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1017<br>12 | Equal elbow connectors.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1018<br>24 | Blanking plugs to suit ENG/A/1016-1017 above.  |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |
| ENG/A/1019<br>1  | Basic pneumatics system construction & simulation software; license for seven users.             |           |
|                  | Manufacturer: _____ Catalogue No.: _____   |           |

## Section 11: Paint Brushes, Sweeping Brushes and Dispensers

| Code<br>Quantity              | Description and Specification   | Cost<br>€ |
|-------------------------------|---|-----------|
| ENG/A/1101<br>12 of each size | Paint Brushes:<br>12mm, 25mm, 38mm, 50mm                                      |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1102<br>1               | Paint Brush Pencil Lark/Crow.   |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1103<br>2               | 25mm Paint Brush Fitches consisting 1/round, 1/lining, 1/flat and 1/bent.     |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1104<br>2               | 225mm Paint Roller and Tray.  |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1105<br>1               | Seam Roller.  |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1106<br>1               | 200mm x 43mm Wallpaper Brush.   |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1107<br>24              | Banister type c.300mm X 50mm flat-backed Bench Brush. Resin set pure bristle. |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1108<br>4               | 600mm Sweeping Brush with Handle.   |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1109<br>1               | Galvanised bucket, c.10 litre capacity.                                       |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1110<br>1               | Plastic funnel, c.100mm diameter.   |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1111<br>1               | 300mm X 200mm Square Mouth 700mm Handled Shovel.                              |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1112<br>2               | Heavy-duty Plastic Bucket c.10 litre capacity.                                |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |
| ENG/A/1113<br>6               | Large Plastic Dust/Litter Bin with Lid capacity c.80 litres.                  |           |
|                               | Manufacturer: _____ Catalogue No.: _____                                      |           |

**Note:** Equipment to be commissioned and training provided where appropriate. Where servicing is required during the warranty period then the cost should be included in the tender price.

## Equipment for Engineering ENG/A

| Section    | Code             | Description and Specifications:                | Total Cost €: |
|------------|------------------|--|---------------|
| Section 1  | ENG/A/101-123    | Drawing and Design                             |               |
| Section 2  | ENG/A/2001-2114  | General Workshop Equipment and Tools           |               |
| Section 3  | ENG/A/301- 303   | Power Tools                                    |               |
| Section 4  | ENG/A/401- 461   | Electronics and Control Technology             |               |
| Section 5  | ENG/A/501- 507   | Structures and Mechanisms                      |               |
| Section 6  | ENG/A/601- 620   | Safety Equipment                               |               |
| Section 7  | ENG/A/701-710    | Metal Heating Equipment and Accessories        |               |
| Section 8  | ENG/A/801-831    | Sheet Metal and Polymer Equipment              |               |
| Section 9  | ENG/A/901- 916   | Welding Equipment and Accessories              |               |
| Section 10 | ENG/A/1001- 1019 | Pneumatics Equipment                           |               |
| Section 11 | ENG/A/1101- 1113 | Paint brushes, Sweeping brushes and Dispensers |               |

|                             |  |
|-----------------------------|--|
| Total (€)                   |  |
| Add for VAT (€)             |  |
| Total amount for List A (€) |  |

## Standards, Specifications and Conditions

**All Equipment shall be Durable and Safe for School Use.  
Equipment wholly or partly funded from public funds is subject to Inspection by  
Officers from the Department of Education and Skills.**

It is essential that tenders for equipment for School Use shall:

- i) Comply fully with the specifications and be durable and safe for School Use.
- ii) Comply fully with the standards as detailed and shall comply fully with European (EN) standards, both established and developing.
- iii) Comply with European electrical standards and CE marking as appropriate.
- iv) Be accompanied by documentation of sufficient detail for full evaluation.
- v) Include the completed and signed certificate of compliance.

Award of a contract is conditional on the production of a current tax clearance certificate.

Failure to comply with the above may result in the tender being deemed null and void.

### Certificate of Compliance with Standards, Specifications & Conditions:

I/We certify that the equipment tendered complies in all respects with the Standards, Specifications and other requirements/conditions specified in this tender document.

I/We hold a current tax clearance certificate.

Company: \_\_\_\_\_

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Position: \_\_\_\_\_

# Engineering Equipment List B

## Section 1: Machine Tools and Storage

| Code<br>Quantity | Description and Specification  | Cost<br>€ |
|------------------|--|-----------|
| ENG/B/101<br>1   | Vertical Bandsaw, Floor-standing, tiltable, c.400mm x 400mm table, blade length c.3000mm - max. Width 19mm. Cutting height 150mm - 300mm, cutting width 300mm - 400mm. Blade guard, no-volt release switch, c. 1.5 kW, 3 phase, 50 Hz. |           |
|                  | <p style="color: red; text-align: center;">Three year on-site warranty to include parts and labour.</p> <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/102<br>2   | Scroll Saw, 450mm, with tilt table, variable speed motor, sawdust blower, workpiece hold-down and blade guard attachment. Motor c.120-200 W, 230 V.  |           |
|                  | <p style="color: red; text-align: center;">Three year on-site warranty to include parts and labour.</p> <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/103<br>2   | Drill-press vice (approx. 100mm and 150mm jaws, prismatic type) complete with appropriate hold down clamps.  |           |
|                  | <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/104<br>1   | Lever shearing machine, capacity 6mm strip, c.12mm round.  |           |
|                  | <p style="color: red; text-align: center;">Three year on site warranty to include parts and labour.</p> <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/105<br>1   | Horizontal band saw (mobile), c.200mm cutting capacity 380 V 3 pH / 230 V 1 pH.  |           |
|                  | <p style="color: red; text-align: center;">Three year on-site warranty to include parts and labour.</p> <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/106<br>1   | Double-ended pedestal grinder, with eye shields, tool rests / water trough. Wheel diameter c.250mm, coarse and medium grit type. 230 v, 50 Hz., single phase.  |           |
|                  | <p style="color: red; text-align: center;">Three year on-site warranty to include parts and labour.</p> <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/107<br>2   | Drilling machine, pedestal model, capacity in steel c.26mm. All geared variable spindle speeds. Complete with fitted keyless drill chuck, key and chuck guard. Electrics 3 pH, 380V, 50Hz. Supplied complete with starter/ isolator.   |           |
|                  | <p style="color: red; text-align: center;">Three year on-site warranty to include parts and labour.</p> <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/108<br>1   | Grinding wheel dresser.  |           |
|                  | <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |
| ENG/B/109<br>1   | Drill grinding attachment, c.6 to 25mm.  |           |
|                  | <p>Manufacturer: _____ Catalogue No.: _____</p>  |           |

|                |   |                       |
|----------------|---|-----------------------|
| ENG/B/110<br>1 | <p>Injection Moulding Machine: for demonstration of injection moulding principles; bench top/portable model suitable for school use; set of 4 moulds for production of objects up to c.20 g; 2 kg of suitable polymer granules. 230 V, 50 Hz.</p> <p><b>Three year on-site warranty to include parts and labour.</b></p>  |                       |
|                | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| ENG/B/111<br>1 | <p>Low cost tensile testing/extensometer machine, portable/bench mounted type.</p> <p><b>Three year on-site warranty to include parts and labour.</b></p>   |                       |
|                | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| ENG/B/112<br>1 | <p>Impact testing Simulation software (education version) capable of carrying out Izod/Charpy/tensile impact testing on various materials.</p> <p><b>Three year on-site warranty to include parts and labour.</b></p>   |                       |
|                | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| ENG/B/113<br>1 | <p>Low cost non-destructive magnetic particle testing kit.</p> <p><b>Two year warranty.</b></p>   |                       |
|                | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| ENG/B/114<br>3 | <p>Centre Lathe. All metric indexing. Centre height: c.140mm to 180mm to admit c.500mm to 1000mm between centres. Fully enclosed oil bath gearbox with provision for cutting screw thread pitches in millimetres. Range of spindle speeds (typical speeds; 36-1600/40-2500 rpm). Spindle bore, c.38mm min. Foot-operated brake/switch, no more than 24V to control buttons, c.1-2.2 kW electric motor.</p> <p>Electric supply 380 V, 3 pH, 50 Hz. Machine to be mounted on steel cabinet base and supplied complete with starter/isolator. The following total number of accessories should be supplied with the lathe and, where possible, fitted.</p> <ul style="list-style-type: none"> <li>a) Pump, tank and fittings.</li> <li>b) Quick change tool-post.</li> <li>c) Carbide tooling package to suit lathe, to include: right hand tool holder, boring bar (c.12mm), parting-off block, combination knurling tool and blade. All tooling should have independent tool holders</li> <li>d) Appropriate carbide inserts for tooling package at c.</li> <li>e) Multi-head knurling tool with fine, medium and coarse knurls.</li> <li>f) Three jaw self-centering chuck, c.110mm. Chuck complete with key and set of reversible jaws.</li> <li>g) Four jaw independent chuck, c.150-200mm, complete with key.</li> <li>h) Drill chuck, c.13mm capacity complete with key and arbor. Keyless Chuck to suit tailstock of lathe.</li> <li>i) Morse taper centres – one live centre and one dead centre.</li> <li>j) Face plate, c.150-300mm.</li> <li>k) Travelling steady, and fixed steady – 3 point.</li> <li>l) Angle poise low voltage lamp.</li> <li>m) Set of spanners.</li> <li>n) Operator handbook.</li> <li>o) Set of anti-vibration pads - fitted to lathe.</li> <li>p) Digital read outs fitted also</li> </ul> <p><b>Three year on site warranty to include parts and labour.</b></p> |                       |
|                | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |
| ENG/B/115<br>2 | <p>Tool storage presses with cut-out slots for hand tools, lockable, approximate size 1900mm x 1000mm x 500mm</p>   |                       |
|                | <p>Manufacturer:</p>  | <p>Catalogue No.:</p> |

|                |   |                |
|----------------|---|----------------|
| ENG/B/116<br>1 | Mobile tool cabinet, c.1000 x c.500 x c.350mm, all metal construction complete with fitted drawer and lock. |                |
|                | Manufacturer:   | Catalogue No.: |

| Section 2: Digital Technologies and Computer Aided Manufacturing (CAM) |  |        |
|--|--|--------|
| Code Quantity  | Description and Specification  | Cost € |
| ENG/B/201<br>1   | Laptop suitable to run CNC, laser cutter and 3D printer, to be supplied with a case and wireless optical mouse.<br><br><b>2 Year warranty.</b>   |        |
|  | Manufacturer: _____ Catalogue No.: _____   |        |
| ENG/B/202<br>1   | Visualiser: Min. 13 MP Lens, Up to 4K at 30 fps Video, Built-In Mic, coverage A3 + (533x330mm), USB Interface & Power Connection to a PC.<br><br><b>5 year warranty.</b>   |        |
|  | Manufacturer: _____ Catalogue No.: _____   |        |
| ENG/B/203<br>1   | 3D Printer: Min volume area 100mm x 100mm x 100mm, Suitable for education purposes (not DIY/home spec.) and capable of high quality printing, user-friendly software based on open-source platform (Compatible with Parametric Modelling software used in Design and Communication Graphics (DCG)), Support materials such as PLA, Fully enclosed print chamber, and Technical support must be available. Roll of PLA to be provided with machine.<br><br><b>Two year on-site warranty to include parts and labour.</b>  |        |
|  | Manufacturer: _____ Catalogue No.: _____   |        |
| ENG/B/204<br>1   | Bench mounted computer numerically controlled (CNC) slant bed educational training lathe: max. machining diameter c.55mm, travel in x-axis: c.50mm, travel in z-axis: c.250mm, typical spindle speed range: c.100-4000 rpm.<br>Electric supply: 110/230 V, 1 pH, 50/60 Hz.<br>Machine to be compatible with standard computer hardware, operating system/CADCAM software, educational (NOT industry standard), must provide simulation and be multi user platform, fully enclosed working area, operator's handbook.<br>Appropriate tooling package to cater for standard lathe operations to be included.<br><br><u>Note: Details of specification of computer required to operate to be furnished to school.</u><br><br><b>Three year on-site warranty to include parts and labour.</b><br><br><b>ONE ONLY TO BE SUPPLIED PER SCHOOL</b> |        |
|  | Manufacturer: _____ Catalogue No.: _____   |        |

|                        |   |  |
|------------------------|---|--|
| <p>ENG/B/205<br/>1</p> | <p>Laser cutter/engraver: CO2, workable on a variety of materials, minimum engraving area 300mm x 300mm, accommodate minimum 100mm thickness, minimum 30 Watt laser tube, open source software and driver, Raster &amp; Vector operating modes, single phase, must come with a Vector grid, Air compressor and Fume extraction system, and Technical support must be available.</p> <p>2 Year on-site warranty on machine and CO2 tube.</p> <p><b>NOTE:</b></p> <p>Only 1 laser cutter to share between Engineering, Technology and Construction Studies room.</p> <p>If school offers any of these three subjects (or are getting an upgrade to <u>any</u> of these rooms) they are entitled to get a laser cutter.</p> <p>Location of laser cutter is identified on each of the room layouts.</p> |  |
|                        | <p>Catalogue No.:</p>   |  |

**Note:** Equipment to be commissioned and training provided where appropriate. Where servicing is required during the warranty period then the cost should be included in the tender price.

| Equipment for Engineering ENG/B |               |   |               |
|---------------------------------|---------------|---|---------------|
| Section                         | Code          | Description and Specifications:                       | Total Cost €: |
| Section 1                       | ENG/B/101-116 | Machine Tools and Storage                             |               |
| Section 2                       | ENG/B/201-205 | Digital Technologies and Computer Aided Manufacturing |               |

|                             |  |
|-----------------------------|--|
| Total (€)                   |  |
| Add for VAT (€)             |  |
| Total amount for List B (€) |  |



## Standards, Specifications and Conditions

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- iii) Comply with European electrical standards and CE marking as appropriate.
- iv) Be accompanied by documentation of sufficient detail for full evaluation.
- v) Include the completed and signed certificate of compliance.

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Failure to comply with the above may result in the tender being deemed null and void.

### Certificate of Compliance with Standards, Specifications & Conditions:

I/We certify that the equipment tendered complies in all respects with the Standards, Specifications and other requirements/conditions specified in this tender document.

I/We hold a current tax clearance certificate.

Company: \_\_\_\_\_

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Position: \_\_\_\_\_