



Standard with all  
Suregrave manufactured  
CAM machines



Standard with all  
ULS CO<sub>2</sub> Laser cutting  
systems

3D CAM ▪ LASER ▪ RAPID PROTOTYPING ▪ SUBLIMATION  
MATERIALS & CONSUMABLES



SEPTEMBER 08

# Its your promotion - *YOU CHOOSE...*

SureCAM 3D CAM machines, laser cutters and ZCorporation Mono or Colour 3D Rapid Prototype Machines

**FREE**  
**SERVICE**  
AND CPD session  
at end of 1st year  
worth up to **£450**

Terms of redemption. Vouchers not redeemable in conjunction with any other offer.  
Only one voucher per machine. Vouchers are non transferable.  
Offers end Dec 19th 2008 and are at the discretion of Suregrave (UK) Ltd.



**FREE**  
**TOOLING,**  
**ACCESSORIES,**  
or **CONSUMABLES**  
worth **£250**

Terms of redemption. Vouchers not redeemable in conjunction with any other offer.  
Only one voucher per machine. Vouchers are non transferable.  
Offers end Dec 19th 2008 and are at the discretion of Suregrave (UK) Ltd.



# Its your promotion - *YOU CHOOSE...*

SureCAM 3D CAM machines, laser cutters and ZCorporation Mono or Colour 3D Rapid Prototype Machines

**£250**  
**TOWARD**  
**ENTERPRISE**  
**PACKS**

Terms of redemption. Vouchers not redeemable in conjunction with any other offer.  
Only one voucher per machine. Vouchers are non transferable.  
Offers end Dec 19th 2008 and are at the discretion of Suregrave (UK) Ltd.



**£100**  
**CONSUMABLES**  
**OCTOBER**  
**BONUS**

Terms of redemption. Vouchers not redeemable in conjunction with any other offer.  
Only one voucher per machine. Vouchers are non transferable.  
Offers end Dec 19th 2008 and are at the discretion of Suregrave (UK) Ltd.

## What's inside

Inside our catalogue you'll find machines, materials, consumables and services for use within Design Technology, Engineering and Enterprise.

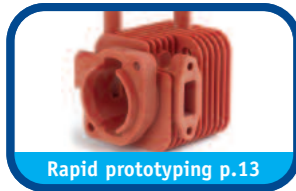
We recognise that your success is our success, so if you can't find the machine, material, or spare part you need we are only a phone call or email away...



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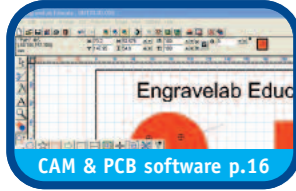
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CAM & PCB software p.16



Materials & consumables p.18

## Education Website

Visit our dedicated education website [www.cadineducation.com](http://www.cadineducation.com) for the latest news on products, plus interesting stories from Schools using our CAM machines.

## Dedicated Education Hot Line

Call our new education hotline **01483 447 590** for FAST ANSWERS to questions about your new CAM machine or to arrange a free demonstration with one of our application specialists.

## Industry leading warranties

There are great benefits to annually servicing your CAM machine.

- 1 Extension of warranty for up to 10 years on Suregrave manufactured machines and 5 years on lasers (see full warranty details on page 20).
- 2 Machines hold their resale value for part exchange (see grow your department – part exchange page 2) allowing you to continue to offer state of the art manufacturing technology for your students.
- 3 Reliability and quality.

**We understand the difficulties you face with service commitments so why not book a CPD session for your department and we will include the service?**

## Free demonstration & support of CAM meetings & CPD

Try before you buy and put different technologies to the test. Is a laser or conventional CAM machine best for you, we will bring multiple systems to you so you make a proper evaluation. Call **01483 447 590**.

## Payment Information

### Methods of Payment

Pay for consumables on account, by cheque or credit/debit card. Minimum transaction fee is £20.00 excluding carriage and VAT. For details of special terms for education CAM machines call our education hotline - **01483 537 579**

### Carriage Charges

1 Day - £9.50 (Applicable to mainland UK only). Postal deliveries for items below 2 kilos, minimum post and packaging charge is £5.00.

### Lost or Damaged Goods

No responsibility can be accepted for non-delivery of goods unless we are informed in writing within 7 days. Contents damaged or missing must be signed for accordingly or clearly marked "unexamined" alongside the acceptance signature. Failure to do so will result in none reimbursement, having acknowledged "receipt in good condition" in writing.

### Returns

Please ensure all returns are accompanied by a customer returns number obtainable from our head office. Orders supplied to a customer's specification then subsequently returned for credit will only be reimbursed providing the goods have not been tampered with in any form. A 20% handling charge will be implemented. 'Specials' purchased from an outside source on behalf of a customer may only be returned if agreeable with the original supplier.

Where applicable prices in this catalogue are subject to VAT @ 17.5%



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## Why buy from Suregrave?

As a manufacturer rather than just a re-seller we employ apprentices and engineers giving us a vested interest in students having a good grounding in technology. The CAD/CAM initiative is more to us than amounts on a balance sheet.

Machines, materials and consumables are manufactured at our Tyneside factory. We have 20+ years manufacturing/service experience with over 18,000 machines installed worldwide. Our nationwide service team utilise the latest help desk technology, including LogMeIn rescue for web based support where it's most needed - your PC screen.

We recognise the value of old fashioned service too, that's why every machine supplied comes with on site installation and training.

**SureCAM machines** are built to the same specifications as their industrial counterparts and our ISO accreditation assures you of quality and resulting productivity and reliability. Of course we don't manufacture every product we supply but where we choose to work with a partner manufacturer we only settle for the best, after all our reputation is at stake too.

**Universal Laser Systems** have been the recognised market leader over the past 18+ years with thousands of installations worldwide. The only manufacturer of both laser cartridge and the chassis, they consistently deliver the longest life and lowest operating costs.

**Z-Corporation rapid prototyping** delivers the fastest and lowest cost manufacturing of 3D products from CAD data. They are unique also in having the only option that manufactures models in full colour.



## CAM Machine News

Suregrave spend much time supporting CDP courses for DT, electronics and engineering including working with the Nuffield institute giving us a real understanding of the role of CAM towards pupils aspiration, engagement and achievement.

2D Design version 2™ from Techsoft UK Limited™, all SureCAM and laser cutters can be operated directly from all versions

SureCAM machines all feature bottom left origins meaning what you design on the CAD screen is manufactured correspondingly on the worktable.

USB replaces out dated serial interfaces, bringing many advantages and eliminating the need to specify a special and more expensive PC's.

The Wizzard and Excalibur machines use a 'virtual handset', providing on-screen control of the machine through the PC.

New for the Wizzard is the addition of the electronic tool setting previously only fitted to the Excalibur and Gryphon machines. Tool setting is fool proof.

Thanks to technological advances in parts and manufacture we have increased the maximum on site warranty for SureCAM machines to 10 years and 5 years on laser cutters.

Service free with CPD! With budgets traditionally tight (or non existent) for service SureCare provides a technician for service and CPD under the banner of CPD. Costs are £350 for a laser CPD day and £450 for 3D CAM.

Brand new to our laser product line are the VersaLaser platforms, with larger work areas and trolley mounted rather than bench-top. These new machines are excellent value for money and include the unique materials based interface.

## Grow your department – Part Exchange

Departments often grow out of their original CAM equipment or want to change direction completely. Suregrave make it easy to budget for growth. Part exchange values subject to machine inspection and exchange against a larger SureCAM system.

CAM Machine	Age	Part Exchange Value
Wizzard DT High Lift (Green)	2-3	£2,000
	3-4	£1,500
Wizzard DT (Grey)	4-6	£1,250
	6-8	£1,000
	8-10	£1,000
2516i DT (engraving spindle type)	4-6	£2,000
	6-8	£1,750
	9+	£1,500
Excalibur (Routing spindle and steel cabinet type)	2-3	£3,000
	3-4	£2,500

## Special Finance for Education

Suregrave have created a finance facility dedicated solely to the needs of the education sector.

The case for schools finance is simple and powerful. Our tailor made solutions allow you to acquire the equipment you need now and spread the cost over a fixed period, freeing up working capital whilst realising the benefits of modern CAM technology now.

1. Up to date CAM eliminates traditional manufacturing bottlenecks leaving more time for teaching.
2. The benefits of new equipment are seen in the number of students "opting in", quality of work produced and ultimately improvements in examination success.
3. Spreading the cost creates instant cash flow benefits, payments can be made monthly, termly, quarterly or yearly.
4. No deposit is required, get the equipment when you need it with deferred payments up to six months.
5. Include not only the cost of equipment but also installation, maintenance and training, all in one simple regular payment.
6. We include "technology refresh" at pre-determined points allowing you to add on or upgrade, often without increasing payments.
7. All documents conform to the statutory financial requirements of the DfES and FAS.
8. 24 hour response, once approved sign one short easy to understand document and pay at the agreed interval, its that simple.

Suregrave finance for education is provided by The First Group.

## ULS CO<sub>2</sub> Laser cutting & marking systems

See inside back cover for suitability of use.

**Feature:** Lowest CO<sub>2</sub> cartridge recharge price guaranteed

**Advantage:** Recharge cost is 1/2 to 1/3 of competitors because ULS manufacture their own cartridges.

**Benefits:** ULS lasers cost less to run than competitors.

**Feature:** Unique materials driver means VLS & PLS are simple to use

**Advantage:** Choose material from list (editable), set thickness, GO!

**Benefits:** Ease of use, projects can be listed according to KS, class or curriculum.

**Feature:** Suregrave upgrade on-site warranty to 5 yrs on-site

**Advantage:** Keep you laser AND personnel in tip top condition.

**Benefits:** Service costs can be built into machine price or CPD.

**Feature:** Enclosed & shielded optics are standard fitment

**Advantage:** Optics remain cleaner for a longer time.

**Benefits:** Easy / less cleaning means less potential damage.

**Feature:** ULS, the only manufacturer to produce cartridge & chassis

**Advantage:** ULS cartridges are tuned specifically for maximum performance and long life (average life +6 years).

**Benefits:** Lower running costs over life of laser, purposed designed and not general-purpose lasers adapted for cutting.

**Feature:** Patented "Perm-Align" cartridge design

**Advantage:** Cartridges are easy to upgrade/exchange requiring no tools and are easily interchanged between ULS systems.

**Benefits:** No need for costly technicians to travel to you to replace cartridge and align beam.

**Feature:** Over Temperature Alarm fitted as standard

**Advantage:** If the cabinet temperature rises due to combustion a warning sound is emitted.

**Benefit:** Safety and peace of mind.

**Feature:** Upgrade cartridge power

**Advantage:** Increase performance of your laser when budget allows.

**Benefit:** Increase throughput as pupil numbers increase or budget allows.

## VLS VersaLaser Co<sub>2</sub> laser cutter



The VersaLaser is the most popular model of laser cutter supplied to schools and colleges and includes a friendly materials based interface making it ideal for KS3 use just choose the material type from the list and input its thickness.



Choose your own colour.

■ See vouchers at front of catalogue for special offers.

### Specifications

- VLS-2.30 - work area 400 x 300 x 102mm
- VLS-3.50 - work area 600 x 300 x 102mm
- Self aligning laser cartridge
- Desk standing safety interlocked laser cabinet
- Motorised Z axis with auto focus
- Self aligning, spring loaded & sealed bearings
- Choose Blue (Standard) Red, Yellow, Green or Purple Lid/Side Panels
- Up to 5 years on site (conditional) warranty. See page 20

Prices may be revised due to currency fluctuation without notice.

FREEFAX 0800 616 539

## VersaLaser Accessories

- Rotary fixture for VLS-2.30 .....£495
  - Rotary fixture for VLS-3.50 .....£525
  - Back sweep .....£129
  - Focus lens kit .....£195
  - Replacement honeycomb for VL-200 cutting table.....£40
  - Replacement honeycomb for VL-300 cutting table.....£50
  - Wheeled cabinet with doors and storage for HEPA, AirPump etc.....£609
- Support CD included. Prices include delivery and training.

### VersaLaser Package Prices

Vent to Air package includes; VersaLaser and laser cartridge, USB connection, cutting table, VersaLaser and advanced drivers, Vent to Air extraction air-assist, air pump, air assist cone, support materials linked to curriculum, delivery, installation and training, 3 year on-site warranty (3rd year conditional on annual service)

Bench top package same as above except BOFA AD250 HEPA filter system with LED condition meter in lieu of Vent to Air extraction.

Portable package same as plus trolley.

VLS model	Watts	Area (mm)	Vent2Air	HEPA	Portable
VLS2.30	10	400 x 300	£7,550	£7,850	£8,450
	25	400 x 300	£8,195	£8,495	£9,095
	30	400 x 300	£8,599	£8,899	£9,499
VLS3.50	10	600 x 300	£8,450	£8,750	£9,350
	25	600 x 300	£9,095	£9,395	£9,995
	30	600 x 300	£9,395	£9,695	£10,295
	35	600 x 300	£9,950	£10,250	£10,850
	40	600 x 300	£10,450	£10,750	£11,350
	45	600 x 300	£10,850	£11,150	£11,750
50	600 x 300	£11,395	£11,695	£12,295	

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## VersaLaser Platform Co<sub>2</sub> Laser Cutter



- Choose your own colour.
- See vouchers at front of catalogue for special offers.

**New model –unbeatable value**

See inside back cover for suitability of use.

Vent2Air package; VersaLaser with laser cartridge, USB connection, cutting table, materials and advanced drivers, Vent2Air extraction, air-assist, SureAirPump, curriculum materials, delivery/on site install/training, up to 5 year (conditional) onsite warranty.

HEPA package same as above except HEPA filter in lieu of Vent2Air. Portable package same as above plus wheeled cabinet.

Prices may be revised due to currency fluctuation without notice.

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## VLS Platform/PLS Specifications

**VLS3.60 & PLS3.75** Work area.....61 x 30 x 20cm  
Max work piece.....74 x 43 x 22cm

**VLS4.60 & PLS4.75** Work area.....61 x 46 x 20cm  
Max work piece.....74 x 58 x 22cm

**VLS6.60 & PLS6.75** Work area.....81 x 46 x 20cm  
Max work piece.....94 x 58 x 22cm

- Safety interlocked cover ■ Advanced printer interface
- Self aligning laser cartridge ■ Motorised Z axis with auto focus
- Desk standing safety interlocked laser cabinet
- X,Y beam positioning system ■ Up-to 1000 dpi resolution
- Self aligning, spring loaded & sealed bearings
- Quick change laser cartridge compatible ■ Advanced printer driver
- Up to 5 years on site (conditional) warranty. See page 20

## VLS Platform laser cutter packages

VLS3.60 (600 x 300mm)			
Power	Value-Vent to Air	HEPA Package	Ex showroom
30 watt	£12,995	£13,745	Call
35 watt	£13,500	£14,250	Call
40 watt	£13,995	£14,745	Call
45 watt	£14,500	£15,250	Call
50 watt	£14,995	£15,745	Call
55 watt	£15,500	£16,250	Call
60 watt	£15,995	£16,745	Call

VLS4.60 (610 x 457 mm)			
Power	Value-Vent to Air	HEPA Package	Ex showroom
30 watt	£13,500	£14,250	Call
35 watt	£13,995	£14,745	Call
40 watt	£14,500	£15,250	Call
45 watt	£14,995	£15,745	Call
50 watt	£15,500	£16,250	Call
55 watt	£15,995	£16,745	Call
60 watt	£16,500	£17,250	Call

VLS6.60 (810 x 457mm)			
Power	Value-Vent to Air	HEPA Package	Ex showroom
30 watt	£14,500	£15,250	Call
35 watt	£14,995	£15,745	Call
40 watt	£15,500	£16,250	Call
45 watt	£15,995	£16,745	Call
50 watt	£16,500	£17,250	Call
55 watt	£16,995	£17,745	Call
60 watt	£17,500	£18,250	Call

Prices may be revised due to currency fluctuation without notice.

## PLS Co2 laser cutters



■ See vouchers at front of catalogue for special offers.

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Lasers feature the unique ULS materials based interface. Laser settings are automatically calculated along with job time estimation. Up to 2,000 jobs are stored allowing retrieval from the laser without having to locate that memory stick!



Prices may be revised due to currency fluctuation without notice.

## PLS Laser Cutter Packages

	Power	Vent2Air	HEPA	Ex Demo
<b>Professional PLS3.75</b> (610 x 305mm)	30 watt	£14,995	£15,745	Call
	35 watt	£15,500	£16,250	Call
	40 watt	£15,995	£16,745	Call
	45 watt	£16,500	£17,250	Call
	50 watt	£16,995	£17,745	Call
	55 watt	£17,500	£18,250	Call
	60 watt	£17,995	£18,745	Call
75 watt	£20,500	£21,250	Call	
<b>Professional PLS4.75</b> (610 x 457mm)	30 watt	£15,795	£16,495	Call
	35 watt	£16,295	£16,995	Call
	40 watt	£16,795	£17,495	Call
	45 watt	£17,295	£17,995	Call
	50 watt	£17,795	£18,495	Call
	55 watt	£18,295	£18,995	Call
	60 watt	£18,795	£19,495	Call
75 watt	£21,295	£21,995	Call	
<b>Professional PLS6.75</b> (610 x 457mm)	30 watt	£17,250	£17,995	Call
	35 watt	£17,750	£18,495	Call
	40 watt	£18,250	£18,995	Call
	45 watt	£18,750	£19,495	Call
	50 watt	£19,250	£19,995	Call
	55 watt	£19,750	£20,495	Call
	60 watt	£20,250	£20,995	Call
75 watt	£22,755	£23,495	Call	

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## VLS Platform/PLS Accessories

Rotary fixture .....£795  
Back sweep .....£125  
Focus lens kit (2"standard and 4" for deep cut) .....£275  
USB connection kit .....£55  
Ethernet connection kit .....£89  
Replacement honeycomb for M cutting table .....£65  
Replacement honeycomb for V cutting table .....£95  
Replacement honeycomb for X cutting table.....£120

## Exchange Laser Cartridges

### LOWEST REPLACEMENT CARTRIDGE PRICES – GUARANTEED

Tubes are pre-aligned can be changed without the expense of an engineers travel and labour charges. Prices are plus shipping.

25 to 30 watt .....£795  
35 to 40 watt .....£895  
45 to 50 watt .....£995

## Laser Extraction & Filtration Systems & Spares

BOFA and LasTec HEPA filters are fitted with a continuous monitoring system to assure health and safety in the classroom.

LasTec HEPA multi purpose filter .....£200  
LasTec HEPA filter for Wood.....£200  
LasTec HEPA filter for Acrylic.....£210  
Pre-filter pad .....£6  
AD8000 (Multiple lasers or X series high throughput) .....£1,995  
AD250 Replacement V pleated pre-filter and HEPA filter pack....£225  
ADVL Replacement V pleated pre-filter and HEPA filter pack.....£236  
AD350 Replacement V pleated pre-filter and HEPA filter pack....£225  
AD800 Replacement V pleated pre-filter and HEPA filter pack....£442

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## SureCAM Wizzard 3D CAM 305x305x35mm

See inside back cover for suitability of use.

Wizzard is an ideal entry-level machine offering high levels of performance at a budget price; its large worktable makes it ideal for producing PCB boards thanks to the top-loading spindle which makes routing and drilling operations simple.

PCB circuits from PCB Wizzard or other software can be imported into Galaad, cutter data added and machined as a one off or in multiples. The Wizzard is also ideal for flat pack or clip together projects direct from Design Tools® or SureLab education. 3D projects can be machined with GeoCAM software.

The Wizzard is compact and portable bench top machine with an integral "cockpit style" safety cover allowing good visibility for pupils. Several projects can be nested together and cut simultaneously.

The Wizzard is being used to produce PCB components and Resistant Materials projects in 3, 6 and 12mm materials and to produce 3D profiles in up to 25mm material.

## Manufacturer direct package prices

**Resistant materials Wizzard package** .....£4,995  
Includes Wizzard 3D CAM, Safety interlocked sound deadening cover, USB connection, PC control, Professional swarf extraction, DT cutter set, delivery and training.

**Electronics/PCB Wizzard package** .....£4,995  
Includes Wizzard 3D CAM, Safety interlocked sound deadening cover, USB connection, PC control, Professional swarf extraction, PCB cutter set, delivery and training.



**Ideal for new PCB curriculum content – now features electronic tool setting.**

■ See vouchers at front of catalogue for special offers.



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## Specifications

- Wizzard 3D CAM machine with integral safety hood
- 305 x 305mm solid aluminium work-table with sacrificial covering
- Bottom left origin and table fences
- High Drive II remote control 3-dimensional control system
- Precision top loading 1/4" spindle with metric tool holder, integral swarf boot & pressure foot
- 120 Watt motor, Spindle motor adjustable 0 - 20,000rpm
- PCB kit or 2 x cutter holders, 1 x 3mm mill, 1 x D bit cutter ground to 45°, 0.25mm tip
- Accessory kit includes spare fuses, cutter wrench etc.
- INSET pack & training manual
- 4 hours installation and training on site
- Up to 10 years return-to-base (conditional) warranty. See page 20
- Work Area .....X = 305mm Y = 305mm
- Machine Footprint .....X = 600mm Y = 600mm

## Accessories

Professional swarf extraction System A (includes pump & fittings) ....£475  
Vacuum Table (VT3020SF-ST 300x200 area) requires pump/vacuum.....£310  
Vacuum pump & fittings for use with Vacuum Table .....£475  
Self centre vice & standard jigs ideal for enterprise projects.....£305



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## Software

SureLab education software, design, join DXF, scan, weld, carve, photo engrave .....£625  
GeoCAM 3D machining for 3D STL (includes install & training) ....£495  
Pro/DESKTOP "Tutorials for Schools" CD.....£50  
Gallad CAD/CAM software with PCB Wizzard import .....£395  
SureCircuit, manufacture PCD's from PCB Wizzard .....£95  
Drivers for Techsoft™ included free of charge

## Wizzard Tools

PCB kit (0.8, 1 & 1.5mm PCB cutters and holder).....£66.77  
DT Tool Set (2 x 2mm slot, 1 x 3mm round nose, 5 x 3mm parallel and 2 x 2mm parallel cutters.....£163.20  
3mm slot tool set, 5 x 3mm diameter slot cutters (HTEM 3) ..£46.20  
3mm parallel cutter ground for acrylic (CTRSDTG1/GRIND).....£13.00  
3mm diam. bull nose cutter for 3D work (HTBN 1/8) .....£27.40

## Professional Swarf Extraction

3mm cutter holder for HTEN and HTBN cutters (26-98035) ....£20.57  
The inbuilt extraction on all machines when connected to an optional Professional Swarf Extractor removes 95% of swarf at the cutting surface – "a very clean machine".

A support CD is included FREE with all new machines  
Free demonstration available  
Our prices include delivery and training

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## SureCam Excalibur 3D CAM 605x405x100mm

See inside back cover for suitability of use.

Departments often chose this machine because of its industrial router motor, large work area, robustness of manufacture and sound-deadening hood.

Some of the motion control is visible allowing students to gain an understanding of "how it works"! The Excalibur's performance and ease of use set the standard by which other CAM machines are judged. An intermediate capacity industrial CAM machine the Excalibur has a machining area of 635 x 405mm x 100mm work clearance. An industrial routing spindle with a 6mm collet and pressure foot is fitted as standard, the foot helps keep the work piece secure and provides efficient swarf extraction.

Simple to set up, thanks to electronic tool setting schools find pupils vote with their feet and instinctively want to use the Excalibur. Capable of high machining rates in woods, plastics and soft metals it is excellent for the high speed cutting of larger CAM products at examination level. A 3-phase spindle and coolant kit is available as an option for anyone wanting to cut hard metals.

The Excalibur offers a large cutting area suitable for workshop projects including flat pack furniture, CD storage systems, electronics enclosures, architectural modelling and 3D. The large bed-way makes use of industrial clamping systems negating the need for double-sided tape on larger projects. The Excalibur can be fitted with a vacuum table, flip over vice (for inside/outside machining) and a rotary axis.



### Manufacturer direct package prices

**Resistant materials Excalibur package .....£8,995**

Includes Excalibur 3D CAM, USB connection, PC control, electronic tool setting, Professional swarf extraction, 1 additional routing cutter, 1 3D cutter, MiniCAM software, delivery and training.

**Engineering Excalibur package.....£8,995**

Includes Excalibur 3D CAM, Safety interlocked sound deadening cover, Hi-Drive II controller, USB connection, PC control, electronic tool setting, Professional swarf extraction, 1 additional routing cutter, 1 3D cutter, MiniCAM software, 3D flip-over vice, delivery and training.

■ See vouchers at front of catalogue for special offers.

FREEFAX 0800 616 539

### Specifications

- Excalibur DT 3D CAM machine with safety cover
- 635 x 405mm aluminium T Slot work table & sacrificial covering
- Bottom left origin and table fences
- Automated Surface Setting Tool
- High Drive II remote control 3-dimensional control system
- Precision industrial router motor with 6mm collet
- Stepper Motor Driven "Z" Axis with 100mm travel
- 2 Cutters, Spare fuses, Cutter Wrench etc.
- One-day installation and training on site
- Up to 10 years on site (conditional) warranty. See page 20
- Work Area .....X = 635mm Y = 406mm
- Machine Footprint .....X = 1000mm Y = 950mm

### Accessories

- Professional swarf extraction system A - includes pump & fittings ....£475
- Wheeled Trolley .....£520
- 3 Phase spindle and inverter for cutting hard metals .....£1,995
- Spray mist coolant system .....£750
- Flip-over vice .....£295
- F1 for schools adaptor (specify D or R type .....£45
- Vacuum Table (VT6040SE 600x400 area) - requires pump/vacuum .....£750
- Vacuum pump & fittings for use with vacuum table.....£475
- Self centre vice & std jigs ideal for enterprise projects .....£305
- Make PCB & Engrave pack - spring loaded Z axis & precision spindle....£695



FREEFAX 0800 616 539

### Software

- SureLab education software, design, join DXF, scan, weld, carve, photo engrave .....£625
- GeoCAM 3D machining for 3D STL (includes install & training) ..£495
- Pro/DESKTOP "Tutorials for Schools" CD .....£50
- Gawain software for 4th Axis (includes install & training) .....£395
- Gallad CAD/CAM software with PCB Wizard import.....£395
- (Can be interchanged with Gryphon)
- SureCircuit, manufacture PCD's from PCB Wizard .....£95
- Drivers for Techsoft™ included free of charge

### Excalibur Tools

- PCB kit (0.8, 1 & 1.5mm PCB cutters and holder) .....£66.77
- 2D Cutter 3mm ø x 75mm (cut length 25mm) 3XLM-43301 .....£27.40
- 2D Cutter 6mm ø x 75mm (cut length 25mm) 3XLM-43305 .....£35.05
- 3D Cutter 3mm ø /rad x 75mm (cut length 25mm) 3XLM-43302 ..£32.00
- 3D Cutter 6mm ø /rad x 75mm (cut length 25mm) 3XLM-43306 ..£32.00
- 3mm parallel cutter ground for acrylic (CTRSDTG1/GRIND).....£13.00
- 3mm collet for industrial router motor (IRMC3) .....£45.35
- 6mm collet for industrial router motor (fitted standard) (IRMC6)....£45.35

A support CD is included FREE with all new machines  
Free demonstration available  
Our prices include delivery and training

TELEPHONE 01483 447 590

## SureCAM Gryphon 3D CAM 1220x610x100mm

See inside back cover for suitability of use.

The Gryphon is the sensible choice for those requiring a large capacity router in education. The sound-deadening enclosure keeps noise down to acceptable limits when in use making it suitable for use in the classroom, the integral swarf extraction collects up to 95% of waste meaning keeping the machine clean is a quick and easy task!

Suregrave's latest HiDrive II controller gives the Gryphon the leading edge in large capacity machining without sacrificing user friendliness. High quality flat pack batch production for all students is a reality with this machine.

The industrial routing spindle provides excellent flexibility for CAM production with the Gryphon's 1220 x 610mm work area making it capable of undertaking projects over an outsized envelope particularly with vocational courses.

The industrial routing spindle is ideal for the production of larger flat pack furniture and large-scale 3D product design prototypes, and when considered with the industrial production levels the Gryphon is ideal for batch production in schools and learning centres. The Gryphon can be fitted with a vacuum table, flip over vice (for front and back machining), and rotary axis.

## Manufacturer direct package prices

**Resistant materials Gryphon package .....£14,995**  
Includes Gryphon 3D CAM, USB connection, Radio handset control, electronic tool setting, Professional swarf extraction, 1 additional routing cutter, 1 3D cutter, MiniCAM software, wheeled trolley, delivery and training.



UP TO  
**10 YEAR**  
ON SITE  
WARRANTY

**CALL FOR FREE DEMONSTRATION**

**Engineering Gryphon package.....£14,995**  
Includes Gryphon 3D CAM, Safety interlocked sound deadening cover, Hi-Drive II controller, USB connection, Radio handset control, electronic tool setting, Professional swarf extraction, 1 additional routing cutter, 1 3D cutter, MiniCAM software, 3D flip-over vice, wheeled trolley, delivery and training.

■ See vouchers at front of catalogue for special offers.

FREEFAX 0800 616 539

## Specifications

- Gryphon DT 3D CAM machine with safety cover and trolley
- 1220 x 610mm solid aluminium T Slot work table & sacrificial covering
- Bottom left origin and table fences
- SureLab education site licence included
- Automated Surface Setting Tool
- High speed remote control 3-dimensional control system
- Precision industrial router motor with 6mm collet
- Stepper Motor Driven "Z" Axis with 100mm travel
- 3 Cutters, Spare fuses, Cutter Wrench etc.
- Two days installation and training
- Up to 10 years on site (conditional) warranty. See page 20
- Work Area.....X = 1220mm Y = 610mm
- Machine Footprint .....X = 1800mm Y = 1130mm

## Accessories

Professional swarf extraction system A - includes pump & fittings ....£475  
3 Phase spindle and inverter for cutting hard metals .....£1,995  
Spray mist coolant system.....£750  
Flip-over vice .....£295  
F1 for schools adaptor (Specify D or R type) .....£45  
Vacuum Table (VT6040SE 1000x500 area) requires pump/vacuum £1,275  
2 x Vacuum pump & fittings for use with vacuum table .....£950  
Self centre vice & std jigs ideal for enterprise projects .....£305  
Make PCB & Engrave pack - spring loaded Z axis & precision spindle....£695



FREEFAX 0800 616 539

## Software

SureLab education software, design, join DXF, scan, weld, carve, photo engrave .....£625  
GeoCAM 3D machining for 3D STL (includes install & training) ..£495  
Pro/DESKTOP "Tutorials for Schools" CD .....£50  
Gallad CAD/CAM software with PCB Wizard import .....£395  
Gawain software for 4th Axis (includes install & training) .....£395  
(Can be interchanged with Excalibur)  
SureCircuit, manufacture PCD's from PCB Wizard .....£95  
Drivers for Techsoft™ included free of charge

## Gryphon Tools

PCB kit (0.8, 1 & 1.5mm PCB cutters and holder) .....£66.77  
2D Cutter 3mm ø x 75mm (cut length 25mm 3XLM-43301) .....£27.40  
2D Cutter 6mm ø x 75mm (cut length 25mm) 3XLM-43305 .....£35.05  
3D Cutter 3mm ø /rad x 75mm (cut length 25mm) .....£32.00  
3D Cutter 6mm ø /rad x 75mm (cut length 25mm) .....£32.00  
3mm parallel cutter ground for acrylic (CTRSDTG1/GRIND).....£13.00  
3mm collet for industrial router motor (IRMC3).....£45.35  
6mm collet for industrial router motor (fitted standard) (IRMC6) .....£45.35



A support CD is included FREE with all new machines Free demonstration available Our prices include delivery and training

TELEPHONE 01483 447 590

## ZPrinter - Rapid Prototyping

See inside back cover for suitability of use.

Choose the ZPrinter 310+ for mono and the ZP450 for colour.

The ZPrinters from Z-Corporation are the fastest and least expensive to run 3D printers available. Z Corporation are unique in that they are the only manufacturer to offer full colour production direct from your 3D files.

Models can be sanded, painted or electroplated. Different colours, moulds, and even flexible and moving models can be printed.

The 310+ & 450 can print practically anything you draw in 3D. We include enough materials to build approx. 500 MP3's.

Models can cost as little as £1 each and can be printed in less than an hour. You can manufacture as many models as you can fit inside the build chamber, great for batch production of projects.



## Z Corp 310+ Mono 3D Printer

Z-Printer 310+ 3D Printer (20x25x20cm)

- ZD5 De-Powder Station
- ZP130 Consumable Kit (1000 cubic inches - enough for 500 MP3's or similar)
- Delivery, installation and training
- Teaching Materials linked to National Curriculum
- 12 Months on site warranty

Price .....£15,995

- See vouchers at front of catalogue for special offers.



**CALL FOR FREE DEMONSTRATION**

**1 YEAR ON SITE WARRANTY**

## Z Corp 450 Colour 3D Printer



**Join the colour revolution!**



ZPrinter 450 (20x25x20cm) Colour output

- Automated powder top-up and removal
- Integral de-powdering station
- Delivery, Installation & training
- Teaching materials (linked to National Curriculum)
- 12 months on site warranty

Price .....£24,450

- See vouchers at front of catalogue for special offers.

## Consumables

Zp130 Powder - 10.4KG pail ~ 500 cubic inches .....	£350
ZCast™ 501 - 15KG pail ~ 500 cubic inches .....	£350
Zb58 Clear Binder (use with zp130) 1 US Gallon .....	£360
Zb58 Colour Binder c, m, y, k (each) fi US Gallon w/pump .....	£320
<b>New Water Fix ZP140 10kg Pail .....</b>	<b>£370</b>
ZB60 Clear Binder for use with ZP140 1US gallon .....	£340

FREEFAX 0800 616 539

## Sublimation

Dye Sublimation gives pupils industry tools and processes enabling them to produce "retail quality" products quickly and easily.

The process is cross curricular and suitable for use in Design Technology, Textiles, Art and Business Enterprise. Other applications include interior signage, badges, promotions and awards. Pupils are highly motivated by this new industrial process.

### Printers

Using existing CAD you can get started with a just a printer and heat press. You can decorate textiles and resistant materials, make full colour Art, signs, badges, name plates, awards and gifts. Typically the cost of producing the transfer is less than 50p.

### Sublimation Heat Presses

Presses feature timers and temperature gauges. After placing the item in the press closing it automatically starts the timer; at the end the period an audible alarm prompts you to open the press and remove the item.



FREEFAX 0800 616 539

A3 printer with bulk ink system.....	£727
Flat press (38 x 38cm) .....	£560
Digital clam press (40 x 50cm) .....	£877
Digital swing press (40 x 50cm) .....	£1,108
Mug press (7.5 to 9.5cm diam.).....	£363
Multi mug press (7.5 to 9.5cm diam.) .....	POA
Cap press.....	POA

### Consumables

A4 transfer paper (100 sheets) .....	£9.87
A3 transfer paper (100 sheets) .....	£18.87
Replacement ink pack (6 colours 125ml).....	£399
Heat resistant tape .....	£6.85

## FlameFast Low Temperature Casting Unit

We like this piece of equipment so much, we've bought one for our twilight CAD/CAM sessions (if you are organising your own event - we'd like to support it). Simple to use and fast to heat up this low temperature-casting unit is no problem even for the faint hearted. Supplied complete with 3 sticks of lead free pewter.



FlameFast low temperature casting unit .....	£520
Additional lead free pewter sticks .....	£30 each

## Roll Fed Plotters

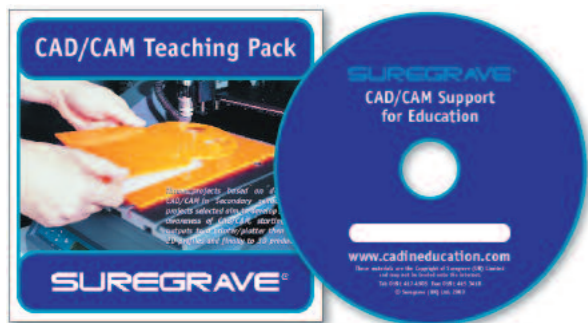
Roll fed plotters can be used for vinyl graphic decoration and producing nets.

B300 Plotter (cutting width 280mm) .....	£525
B600 Plotter (cutting width 590mm) .....	£699
Stand for B600 (Metal stand with rollers) .....	£110
J3-610 Plotter with Optical Alignment .....	£1699
J3-610 Plotter with Optical Alignment & stand .....	£1899



TELEPHONE 01483 447 590

## Free Teaching Support Materials



This support material is included FREE with all new machines. You can also buy it with your e-learning credits.



This has three fully worked up teaching modules to help you introduce CAD/CAM in your establishment. The CD ROM is copyright free for use in your establishment and contains a wealth of information beyond the focused modules to help you deliver CAD/CAM. The materials are not specific to Suregrave machines; they are a teaching aid with clear guidance and pre-prepared materials for use straight away in the classroom.

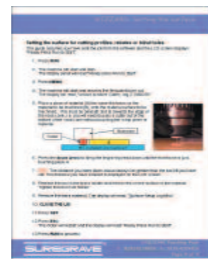
### Modules Including:

- Board Game .....Focus on Plotters and Printers
- Flat Pack .....Focus on 2D profiles
- Food Mould .....Focus on 2D or 3D outcomes

CAD/CAM Teaching Pack Modules includes pre-prepared lesson plans, starter activities, plenaries, worksheets, homeworks and literacy tasks for delivering CAD/CAM at KS3/4. Plus PowerPoint presentations and video clips to enhance your delivery. There are hours of preparation material ready for you to use with your students. All materials are in Word format or PowerPoint ready to use or import into your own sheets.

CD ROM "CAD/CAM Teaching Pack" (Part No 29-92000) .....£50

## Machine Support Pack



All CAM machines supplied by Suregrave include manuals written by a teacher for use by the classroom teacher, technician or student.

Every machine comes with an easy to use printed "User Guide" plus a CD ROM pertinent to the type of machine you have invested in called the "Machine Support Pack".

We believe that providing you with this kind of educational support will make the teaching of CAD/CAM easier in the classroom.

## Free online Support 24/7

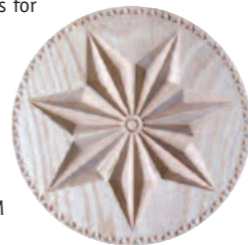
At Suregrave we understand the need for quick and simple technical support. Visit our new website to download new projects, support documentation, videos and more!

[www.cadineducation.com](http://www.cadineducation.com)

## SureLab Educate version 8

SureLab educate is exactly the same product our commercial customers use with the exception the educate version allows multiple seats (you specify quantity). New features for version 8 include:

- **2-D carving** – produce traditional carved effects for text and images.
- **Full nesting** – Saves cash by optimising the area project pieces are cut from
- **Rotary photo engraving** – produce stunning photo effects using your CAM machine.



SureLab Education site licence .....£595

Visit our website to download a trial version.

## 2D Design™ by Techsoft UK Ltd

We continue to support the use of our CAM machines and laser cutters direct from Techsoft Limited™ popular CAD/CAM package meaning in many cases there is no need for additional software, complex file exchange or re-skilling.

SureCAM machines now feature bottom left origins to co-inside with the on-screen view meaning what you see on the screen is manufactured in the corresponding place on the worktable.

## GeoCAM

GeoCAM by Boxford – 2D and 3D Tool Path Generation from STL Files GeoCAM provides 2D and 3D tool paths for STL files from ProDESKTOP and ArtCAM. A simple wizard means tool path generation is both fast and easy and the machining simulation allows the user to see the

standard of finish the chosen tool paths will generate as well as check for collisions assuring the CAM output is successful. This not only saves time and money but also is a powerful tool in building confidence in pupils CAM output.

GeoCAM site licence .....£495

## Suregrave SureCircuit

### ARE YOU READY FOR THE NEW PCB CURRICULUM?

SureCircuit is custom made for isolation engraving, drilling and cutting of printed-circuit boards. Features include:

- Import of Gerber, Excellon and PCB Wizard files, with automatic or manual alignment.
- Management of 4 circuit layers, plus drills, plus cut-out, plus centering holes.
- Automatic calculation of isolating contours, hatched surface pockets.
- Automatic calculation of board cut-out path, with manual addition of binding points.
- Manual modification of isolation contours (deletion or addition with auto-snap).
- Management of a tool library and drilling strategies depending to available cutters.

Visit our website to download a trial version.

## Gawain - Non-indexed rotary module

Lathe parameters are independent and can coexist with milling parameters. This turning module is often used by model makers on a passive lathe they mount on their milling table to combine milling and turning on one single machine at low cost.

Gawain educational site licence .....£175

## V8 Pro/DESKTOP for Schools CD

Do you need tutorials on how to use Pro/DESKTOP® as a teacher or for students to use as an introduction to the software? This software is included **FREE** of charge with the purchase of all new Suregrave CAM machines.

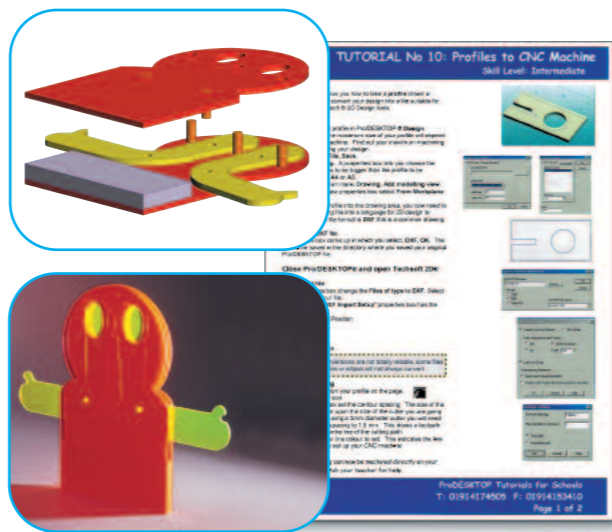
These highly acclaimed tutorials written by Paul Gell and only available through Suregrave, have been revised to provide you with an excellent classroom resource.

The CD-ROM has a range of tutorials, which will help pupils to develop their skills in using Pro/DESKTOP. The tutorials take pupils through a structured course in developing CAD skills using Design, Drawing & Album and are written to build in progression to their learning. Tutorials are in Word 97 format and are ready to print and use in your classroom. You can copy the materials for use in your school and also sell your pupils the tutorial booklet for home use. Also on the CD is video footage of CAD/CAM mould production.

*"An essential piece of ready to use support material for the classroom teacher"* - **Barry McGreggor**

"I showed my Year 10 & 11 GCSE RM classes the CAD/CAM video clip using the video projector on an interactive whiteboard set-up. The class just sat there spell bound listening to the interviews with your students. I followed this up with the CAM manufacturing video. Your CD has got to be the best education/training product I have ever come across." - **Kevin Abel**, Dyffryn Taf School, Whitland.

**Tutorials for Schools CD ROM .....£50**



### e-learning Credits

Suregrave are a registered content provider and retailer for curriculum on line. Products marked with this logo in our catalogue can be purchased using your school's e-learning credits.

What are e-learning credits? Visit [www.dfes.gov.uk/curriculumonline](http://www.dfes.gov.uk/curriculumonline)



**FREEFAX 0800 616 539**

## CAM Machine Cutters

### Spare Cutters for Boxford/Denford/Unimatic

Boxford and Denford machines have historically been supplied with varying spindle assemblies and collet sizes. Providing you specify the same tool diameter as your collet size, our cutters should fit your machine. If in doubt please call our telesales department.

### Pre Ground Cutters for Wizzard DT

To suit Wizzard DT with a 1/4" spindle (not for use with cutter holder).  
3mm Parallel slot cutter - CTRSGT9 1/4 x 5" x 1/8" tip ground 3mm ..£15.00  
2mm Parallel slot cutter - CTRSGT9 - 1/4 x 5" x 1/8" tip ground 2mm ..£15.00

### 2D Cutters to fit Cutter Holder delivered with Wizzard/Excalibur/Gryphon

These cutters will cut PCB boards as well as machine resistant materials when routing in 2D.

HTEM 0.8 .....0.8mm PCB Cutter .....£15.40  
HTEM 1.0 .....1.0mm PCB Cutter .....£15.40  
HTEM 1.2 .....1.2mm PCB Cutter .....£15.40  
HTEM 1.5 .....1.5mm End mill Cutter .....£15.40  
HTEM 2 .....2.0mm End mill Cutter .....£15.40  
HTEM 3 .....3.0mm End mill Cutter .....£15.40

**HTEM Offer – Buy any 5 for the price of 3**

### 3D Cutters to fit Cutter Holder delivered with Wizzard/Excalibur/Gryphon

These cutters are for 3D machining.  
HTBN 1/16" .....1.6mm Bull Nose Cutter .....£27.40  
HTBN 1/8" .....3mm Bull Nose Cutter.....£27.40

**HTBN Offer - 5 for the price of 4**

### D Bit Cutters to fit Cutter Holder delivered with Wizzard/Excalibur/Gryphon

These industrial green grade straight shank cutters can be re-sharpened  
CTRDTG1 .....1/8" Diameter x 2" solid un-ground .....£11.00  
See Tool Sharpening section for instructions on how to specify and order.

**FREEFAX 0800 616 539**

### Cutter holders for above HTEM/HTBN cutters

To fit the above HTEM and HTBN cutters in your machine you will need:  
26-98030 .....Wizzard Cutter Holder .....£11.15  
26-98035 .....Hi-lift Wizzard PCB Cutter Holder .....£12.80  
26-98033 .....1/4" Excalibur/Gryphon Cutter Holder .....£14.90  
26-98050 .....6mm Excalibur/Gryphon Cutter Holder .....£14.90  
30-98011 .....1.27mm Allen Key for cutter holder .....£2.20  
CK3 .....Wizzard Brass Cutter Knob .....£6.45  
30-98012 .....Cutter Knob Release Key.....£9.90

### 2D Cutters to fit Excalibur/Gryphon and Other Machines with Collet Fixing

3XLM-43301 .....3mm ø x 75mm long (cut length 25mm) .....£27.40  
3XLM-43305 .....6mm ø x 75mm long (cut length 25mm) .....£35.05  
3EL-33321 .....1/8" ø x 3" long (cut length 1") .....£33.00  
3L-33303 .....1/4" ø x 3" long (cut length 1") .....£35.05

### 3D Cutters to fit Excalibur/Gryphon and Other Machines with Collet Fixing

3XLM-43302 .....3mm ø x 3mm rad x 75mm long (cut length 25mm) ..£32.00  
3XLM-43306 .....6mm ø x 6mm rad x 75mm long (cut length 25mm) ..£32.00  
3ELB-33344 .....1/8" rad x 3" long (cut length 1") .....£32.00  
3LB-33304 .....1/4" rad x 3" long (cut length 1") .....£40.40

### Collets for Industrial router motor & Perske spindle

IRMC3 .....3mm collet for industrial router motor .....£46.75  
IRMC6 .....6mm collet for industrial router motor .....£46.75  
IRMC1/8.....1/8" collet for industrial router motor .....£46.75  
IRMC1/4.....1/4" collet for industrial router motor .....£46.75  
ER-16/4-3 .....4-3mm collet for Perske spindle .....£36.15  
ER-16/7-6 .....7-6mm collet for Perske spindle .....£36.15

### Diamond Engraving

29-00001 .....Wizzard diamond marking tool for detailed marking of metals .....£51.00

**TELEPHONE 0191 417 4505**

### Swarf Extraction

29-98705 .....	Hi-Flow Vacuum Boot assembly .....	£87.70
20-98607 .....	Hi-Flow Vac Boot .....	£12.80
20-00012 .....	Replacement Nylon Nosecone 1/8" .....	£13.00
20-00002 .....	Replacement Nylon Nosecone 1/4" .....	£13.00

### Worksurface fixings

Double Sided Adhesive Tape - 33m rolls		
DST1 .....	1" wide Vinyl (easily removed) .....	£5.25
DST2 .....	2" wide .....	£10.75

### Work clamping & Sacrificial tops

20-98040 .....	Wizzard side fence .....	£16.45
20-98041 .....	Wizzard back fence.....	£16.45
29-99010 .....	Excalibur side fence .....	£17.55
29-99011 .....	Excalibur back fence pair .....	£28.70
29-99004 .....	Wizzard clamp, stud & nut .....	£24.45
29-99002 .....	Excalibur/Gryphon clamp, 3 studs & nut .....	£27.65
29-99012 .....	Wizzard/Wizzard Hi-Lift Sacrificial Strip Kit ....	£9.00
29-99013 .....	Excalibur Sacrificial Strip Kit .....	£17.55
29-99014 .....	Gryphon Sacrificial Strip Kit .....	£26.60
21-99001 .....	Hi-Lift Wizzard Sacrificial Table .....	£9.00

### Guide to Cutter Tip Size Selection

Selecting the right cutter tip will give a balanced and attractive look to your engraving and will prevent characters from merging together. As a general rule when engraving using single stroke or pre-made multi stroke characters, the tip width required is approximately 12% of the character height.

#### For example:

Character Height 6mm x 12% = Tip width (0.72mm)

## D Bit Cutters and Sharpening

Tungsten Carbide Cutters for cutting shapes and engraving. To fit Wizzard/2516 DT/4824 DT with 1/4" diameter belt driven spindle. These industrial green grade straight shank cutters can be re-sharpened.

CTRSGS18 .....	1/4" Diameter x 5" solid .....	£17.00
CTRSGS9 .....	1/4" Diameter x 6.5" solid .....	£19.60
CTRSGT9 .....	1/4" Diameter x 5" x 1/8" tip .....	£12.00
CTRSGT10 .....	1/4" Diameter x 5" x 3/16" tip .....	£13.75
CTRSGT5 .....	1/4" Diameter x 6.5" x 1/8" tip.....	£13.00
CTRSGT6 .....	1/4" Diameter x 6.5" x 3/16" tip .....	£14.50

Cutters with a CTR prefix can be supplied ground or reground to your specifications. For cutting shapes, specify grind parallel and desired width of cut. For engraving specify angle (45° for plastics, brass & machining grade aluminium, 60° for metals) and truncation (desired width of cut). If in doubt please call our telesales staff.

GRINDING.....Carbide Cutter Re-sharpening .....

### Illustration Of Effect of Tip Width on Stroke Width

Character Height (mm)	1.4	2	3	4	6	8	10	12	15
Preferred tip width (mm)	0.16	0.24	0.36	0.48	0.72	0.96	1.2	1.44	1.8
Use tip reference	A	A	B	C	C	D	D	E	F



## On site Installation and training

Our machines are delivered to your premises by one of our trained technicians who will commission the equipment, set up the machine with your software (2D Design™ or other) and train your department in safety, operation and maintenance of the machine/s. All the above is carried out on site at your premises at a mutually agreed time and date.

In our experience this contact proves to be invaluable enabling your CAM machine/s to be put to immediate use.

An INSET guide and CD ROM with video is also included for reference and guidance.

## Warranty and after sales support

The standard manufacturers warranties for SureCAM and laser cutters are parts\* and labour\*\* on-site\*\*\* for two years and Z Corporation products one year.). The standard warranty and subsequent extension/s thereof are subject to annual service/s from within the first year of ownership. Each annual service extends the warranty for an additional year up to a maximum of: 10 years for Suregrave manufactured machines and 5 years for laser cutters.

\*Exclusions include consumable items, non Suregrave manufactured electronics and any warranty or parts claim caused by negligence or operation by untrained personnel.

\*\* Wizzard 3DCAM, sublimation and low temperature casting unit are return to base.

\*\*\* If machines are not serviced in the first year of ownership then Suregrave reserve the right to charge for labour including travel.

## Help Desk

For support during office hours we operate a help desk. We have a broad band of knowledge accumulated over 20 years and are pleased to help on "how to" or "how can I" needs.

Alternatively send a question to [service@suregrave.com](mailto:service@suregrave.com)

Logon to [www.suregrave.com](http://www.suregrave.com) or [www.cadineducation.com](http://www.cadineducation.com) and click Support.

## Machine Servicing

Our nationwide team of technicians means we have short response times and low costs.

Unlike other distributors our service prices include cleaning, inspection, adjustment, labour AND TRAVEL.

### Return to base service

All SureCAM and Universal laser machines (excluding Gryphon, 4824i and Z Corporation).....£280  
Price excludes carriage

### On site service for SureCAM machines

Wizzard, Excalibur and Gryphon .....

### On site service for Universal Laser Systems

VersaLaser, VersaLaser Platform,  
Professional and PLS systems .....

### On site multiple machine service price reduction

For each additional machine .....

\*Link with other schools in your area for price reductions.

## Sheet Materials

Suregrave manufacture a wide range of materials and consumables at our factory in North East England. Wherever possible we manufacture products in house, allowing our customers to purchase direct from the manufacturer, saving money.

Our helpful and knowledgeable telesales team are always on hand to discuss your requirements or to answer your queries. We aim to process and despatch your orders within 24 hours of receipt.

### Suregrave Engraving Laminates

Engraving laminate is a much overlooked resistant material which is easy to machine and eminently suitable for use in many school projects (as well as school signage and labels!). It comes in a range of vibrant colours including some very attractive brushed and gloss metal finishes.

By cutting through the thin top layer a different colour is revealed. Projects can be created already decorated, removing the need for painting and allowing students to give their work a professional look.



FREEFAX 0800 616 539

## Suregrave CAD/CAM Enterprise Packs

Suregrave have manufactured many hundreds of CAM machines for education however the vast majority of Suregrave's production (including E.S., Dahlgren and Cipher machines) totalling approx. 20,000 machines have been manufactured for commercial use worldwide.

Enterprise education is now a key element within education, based on successful models from our commercial customers Suregrave's packs encourage young people to be enterprising. Even if your establishment is already delivering successful schemes these packs can be used to add funds through ad-hock projects at open days and fetes.

Based on commercial or retail prices these enterprise projects can deliver between x2 and x5 profit or better.

## Enterprise Pack Prices

House signs enterprise pack .....£120  
Cermak laser metal marking compound .....£125

Make 7 different traditional house signs with quality wooden backs and metal plates. Signs can be produced using a CAM machine with appropriate engraving cutters, vinyl cutter or laser cutter (min. 25 watt cartridge) with addition of Cermak spray.



FREEFAX 0800 616 539

Laser badge enterprise pack .....£237

Use your laser to produce up to 468 (60 x 19mm) or 210 (76 x 35mm) badges per sheet. Pack includes 6 assorted laser laminate sheets in popular colours and 100 self adhesive magnetic badge holders. Additional self adhesive magnetic badge holders are available within the consumables section of this catalogue. A laser cutter with a minimum of a 25 watt cartridge and honeycomb/vector cutting table are required.

DAVE JONES  
LLOYDS TSB

SALLY SMITH  
BARCLAYS

CAM badge enterprise pack .....£151

Use your CAM machine to produce up to 468 (60 x 19mm) or 210 (76 x 35mm) badges per sheet. Pack includes 6 assorted colour Micromatt laminate sheets in popular colours and 100 self adhesive magnetic badge holders. Additional self adhesive magnetic badge holders are available within the consumables section of this catalogue. CAM machine requires appropriate engraving cutter/s including parallel cutter or saw and vinyl double sided tape (easy removal).



Pre cut CAM badge enterprise pack .....£206

Includes pre cut badges 100 x (60 x 19mm), 100 (76 x 35mm) and 100 self adhesive magnetic badge holders. Additional self adhesive magnetic badge holders are available within the consumables section of this catalogue. CAM machine requires appropriate engraving cutter/s, vinyl double sided tape (easy removal) or jig/vice for holding badge blank. See consumables section or call our telesales team for advice about your specific machine. Coloured logos applied with optional Sublimation System (see page 14)



TELEPHONE 0191 417 4505

**Plants and Gardens enterprise pack .....£560**

Pack includes 50 no. 24cm and 50 no. 40cm tall high quality plant label holders with pre-cut exterior grade engraving plant labels. The plant labels can be engraved with a CAM machine and appropriate engraving cutter or laser cutter. Labels can be produced using a CAM machine with appropriate engraving cutter/s, vinyl double sided tape (easy removal) or jig/vice for holding badge blank (see consumables section or call our telesales team for advice about your specific machine) or a laser cutter with 25 watts minimum power and honeycomb/vector cutting table.



**Pet Tags enterprise pack .....£259**

Cermark laser metal marking compound .....£125  
520 no. assorted pet tags and rings (26 styles) suitable for dogs and cats. Labels can be produced using a CAM machine with appropriate engraving cutter/s, vinyl double sided tape (easy removal) or jig/vice for holding pet tags (see consumables section or call our telesales team for advice about your specific machine) or a laser cutter with 25 watts minimum power and honeycomb/vector cutting table. Brass and steel plates require addition of Ceremark metal marking spray.



**Name plate pack with sheet materials for CAM machine .....£318**  
**Name plate pack with cut to size inserts for CAM machine .....£317**  
**Name plate pack with sheet materials for laser cutter .....£395**

Manufacture door and desk plates for local businesses and organisations. Pack includes 80 bright finished and cut to size silver or gold (40 each) assorted plate holders in 4 styles and popular sizes with machinable (CAM) or laserable material.

Purchase additional nameplates to order from our telesales department to make use of remaining sheet material. Name plate inserts can be produced using a CAM machine with appropriate engraving cutter/s, vinyl double sided tape (easy removal) or jig/vice for holding badge blank (see consumables section or call our telesales team for advice about your specific machine) or a laser cutter with 25 watts minimum power and honeycomb/vector cutting table.



**Braille and Tactile signs enterprise pack for SureCAM users ....£496**  
**Braille and Tactile signs pack with SureCAM software .....£1049**

The DDA Act made it law for service providers to consider and implement "reasonable" solutions that give disabled customers better access to goods and services. This means anyone or any business providing a service to the general public is affected. As a result Braille and Tactile signage has become one of today's fastest growing signage applications. Braille and Tactile signs can be produced using SureCAM software (includes type 1 and 3 Braille translator - check for CAM machine compatibility), a CAM machine with appropriate engraving cutter/s, vinyl double sided tape (easy removal) or jig/vice for holding badge blank (see consumables section or call our telesales team for advice about your specific machine) or a laser cutter with 25 watts minimum power & honeycomb/vector cutting table.



**Rigid Engraving Laminate (Hard)**

**Cut to size available**  
**Sheets of 1220mm x 1220mm**

Please note that this material requires saw cutting.

100-7011	.....Red/White/Red 1.5mm	.....£25.00
100-7015	.....Blue/White/Blue 1.5mm	.....£25.00
100-7013	.....Green/White/Green 1.5mm	.....£25.00
100-7009	.....Yellow/Black/Yellow 1.5mm	.....£25.00
100-7001	.....White/Black/White 1.5mm	.....£25.00
100-7005	.....Black/White/Black 1.5mm	.....£25.00
100-7029	.....Gold/Black/Silver 1.5mm	.....£61.00
100-7012	.....Red/White/Red 3.0mm	.....£32.85
100-7016	.....Blue/White/Blue 3.0mm	.....£32.85
100-7014	.....Green/White/Green 3.0mm	.....£32.85
100-7010	.....Yellow/Black/Yellow 3.0mm	.....£32.85
100-7002	.....White/Black/White 3.0mm	.....£32.85
100-7006	.....Black/White/Black 3.0mm	.....£32.85
100-7030	.....Gold/Black/Silver 3.0mm	.....£68.90

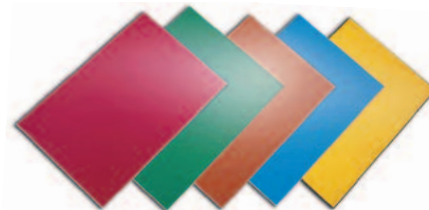
**Other colours & sizes available - Please ask**



**FREEFAX 0800 616 539**

**Micromatt Flexible Engraving Laminate**

By engraving through the top layer a different colour is revealed creating a high quality finish to any project. Engraving laminate comes in a variety of thicknesses & colour combinations. It is suitable for use with all CAM machines.



**Cut to size available**  
**Sheets of 1220 x 610mm x 1.5mm**

MICRO 3-330/2/2	.....Green/White	.....£13.80
MICRO 3-315/2/2	.....Red/White	.....£13.80
MICRO 3-311/2/2	.....White/Red	.....£13.80
MICRO 3-323/2/2	.....Blue/White	.....£13.80
MICRO 3-312/2/2	.....White/Blue	.....£13.80
MICRO 3-360/2/2	.....Yellow/Black	.....£13.80
MICRO 3-304/2/2	.....Lilac/White	.....£13.80
MICRO 3-310/2/2	.....White/Black	.....£13.80
MICRO 3-300/2/2	.....Black/White	.....£13.80
MICMET 3-914/2/2	.....Radiant Aluminium/Black	.....£13.80
MICMET 3-917/2/2	.....Gloss Aluminium/Black	.....£13.80
MICMET 3-909/2/2	.....Radiant Gold/Black	.....£13.80
MICMET 3-912/2/2	.....Gloss Gold/Black	.....£13.80

**Other colours & sizes available - Please ask**

**TELEPHONE 0191 417 4505**

## Exterior Engraving Laminate

Cut to size available  
Sheets of 1220mm x 610mm

EXT 2G-010/2/2	.....Gloss Red/White 1.5mm	.....£22.85
EXT 2G-020/2/2	.....Gloss Blue/White 1.5mm	.....£22.85
EXT 2G-932/2/2	.....Gloss Green/White 1.5mm	.....£22.85
EXT 2G-040/2/2	.....Gloss Yellow/Black 1.5mm	.....£22.85
EXT 2G-005/2/2	.....Gloss White/Black 1.5mm	.....£22.85
EXT 2G-000/2/2	.....Gloss Black/White 1.5mm	.....£22.85
REV 4G-200/2/2	.....Clear/White 1.5mm	.....£22.85
EXT 2G-790/2/2	.....Gloss Gold/Black 1.5mm	.....£29.80
EXT 2G-010/2/4	.....Gloss Red/White 3mm	.....£36.15
EXT 2G-020/2/4	.....Gloss Blue/White 3mm	.....£36.15
EXT 2G-932/2/4	.....Gloss Green/White 3mm	.....£36.15
EXT 2G-040/2/4	.....Gloss Yellow/Black 3mm	.....£36.15
EXT 2G-005/2/4	.....Gloss White/Black 3mm	.....£36.15
EXT 2G-000/2/4	.....Gloss Black/White 3mm	.....£36.15
REV 4G-200/2/4	.....Clear/White 3mm	.....£36.15



## Laser-Cut Engraving Laminate

Suregrave are pleased to be able to offer to Design & Technology departments the new range of 2 ply **laserable resistant material**.

By engraving through the top layer a different colour is revealed creating a high quality finish to any project. Engraving laminate comes in a variety of thicknesses & colour combinations. It is suitable for use with all CAM machines.

Sheets of 1220 x 610 x 1.3mm

Code	.....colours available	.....price/sheet
Micro 3-1501	.....White surface/Black core	.....£24.45
Micro 3-1510	.....Black surface/White core	.....£24.45
Micro 3-1520	.....Red surface/White core	.....£24.45
Micro 3-1590	.....Pine green surf./White core	.....£24.45
Micro 3-1550	.....Blue surface/White core	.....£24.45
Micro 3-1531	.....Yellow surface/Black core	.....£24.45
Micro 3-1513	.....Gloss gold surf./Black core	.....£24.45
Micro 3-1511	.....Gloss silver/Black core	.....£24.45

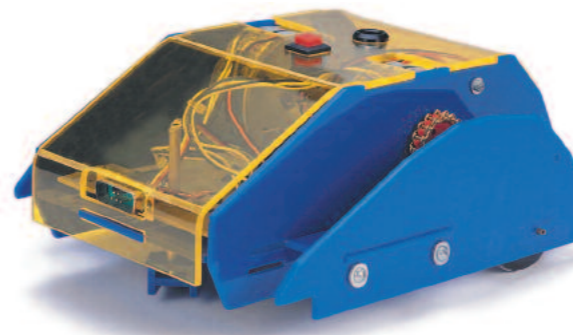


## Acrylic Cast Sheet - Cut to size available

Top quality cast acrylic sheet in a range of solid colours, transparent colours, clear and fluorescent. The fluorescent is light gathering and fluoresces at the edges only. The effect is, however, extremely dramatic. Acrylic can be engraved, laser cut, CNC machined, line bent, drilled, glued etc.

Solid Colours 1000mm x 500mm

ACR-R-3-105	.....3mm Red	.....£10.75
ACR-BLU-3-105	.....3mm Blue	.....£10.75
ACR-G-3-105	.....3mm Green	.....£10.75
ACR-Y-3-105	.....3mm Yellow	.....£10.75
ACR-BLK-3-105	.....3mm Black	.....£10.75
ACR-OR-3-105	.....3mm Orange	.....£10.75
ACR-W-3-105	.....3mm White	.....£9.25
5mm Sheets above size and colourways		.....£18.99
6,8,10 & 12mm thick to order		.....Call for details



Transparent Coloured 1000mm x 500mm

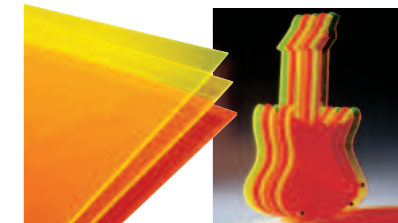
ACR-TR-3-105	.....3mm Red	.....£13.00
ACR-TBLU-3-105	.....3mm Blue	.....£13.00
ACR-TG-3-105	.....3mm Green	.....£13.00
ACR-TS-3-105	.....3mm Smoked	.....£13.00
ACR-TOR-3-105	.....3mm Orange	.....£13.00
5mm Sheets above size and colourways		.....£19.99
6,8,10 & 12mm thick to order		.....Call for details

Clear

ACR-CL-2-105	.....2mm 940mm x 635mm	.....£6.70
ACR-CL-3-105	.....3mm 1000mm x 500mm	.....£8.40
ACR-CL-5-105	.....5mm 1000mm x 500mm	.....£14.10
ACR-CL-6-105	.....6mm 1000mm x 500mm	.....£16.80
8,10 & 12mm thick to order		.....Call for details

Fluorescent 1000 x 500mm

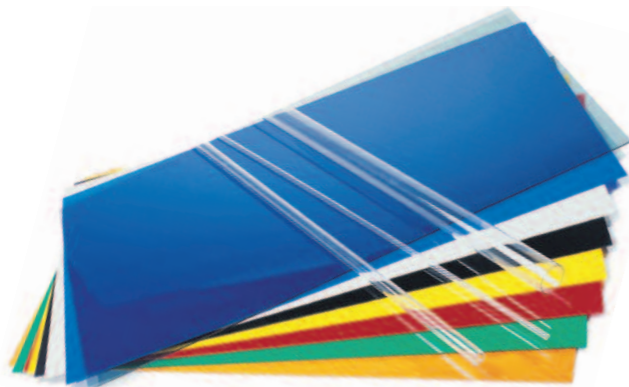
ACR-FR-3-105	.....3mm Red	.....£11.95
ACR-FBLU-3-105	.....3mm Blue	.....£11.95
ACR-FG-3-105	.....3mm Green	.....£11.95
ACR-FY-3-105	.....3mm Yellow	.....£11.95
ACR-FOR-3-105	.....3mm Orange	.....£11.95
5mm Sheets above size and colourways		.....£21.70
6,8,10 & 12mm thick to order		.....Call for details



## Acrylic Extruded Tube - Cut to size available

### Clear - Lengths of 500mm

	Outer Diam.	Inner Diam.	
ACRT-C-4	6mm	4mm	£0.70
ACRT-C-6	10mm	6mm	£1.00
ACRT-C-8	12mm	8mm	£1.05
ACRT-C-11	15mm	11mm	£1.30
ACRT-C-16	20mm	16mm	£1.65
ACRT-C-21	25mm	21mm	£2.15
ACRT-C-34	40mm	34mm	£3.95
ACRT-C-44	50mm	44mm	£4.95
ACRT-C-54	60mm	54mm	£6.20
ACRT-C-64	70mm	64mm	£6.90
ACRT-C-74	80mm	74mm	£8.20
ACRT-C-84	90mm	84mm	£9.50
ACRT-C-94	100mm	94mm	£10.60



## Acrylic Rod - Cut to size available

### Clear Extruded Rod - 500mm lengths

ACRR-C-3	3mm diameter	£0.30
ACRR-C-5	5mm diameter	£0.55
ACRR-C-6	6mm diameter	£0.75
ACRR-C-8	8mm diameter	£1.05
ACRR-C-10	10mm diameter	£1.35
ACRR-C-12	12mm diameter	£1.90
ACRR-C-15	15mm diameter	£2.50
ACRR-C-18	18mm diameter	£3.40
ACRR-C-20	20mm diameter	£4.30
ACRR-C-25	25mm diameter	£6.60

## Nylon Rod - Cut to size available

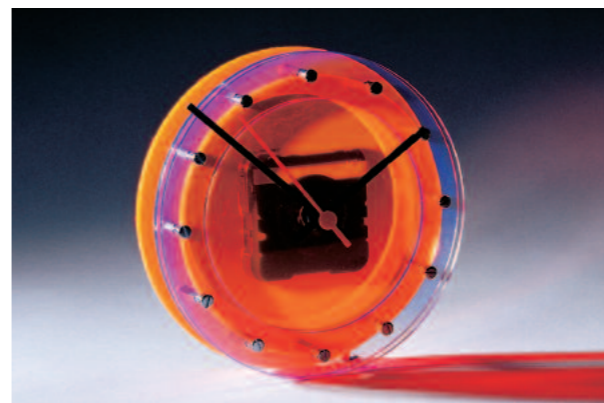
### Natural - Lengths of 1000mm

NYLR-N-6	6mm diameter	£0.65
NYLR-N-10	10mm diameter	£1.45
NYLR-N-12	12mm diameter	£1.85
NYLR-N-16	16mm diameter	£3.25
NYLR-N-20	20mm diameter	£5.00
NYLR-N-25	25mm diameter	£7.80
NYLR-N-30	30mm diameter	£9.55

## Light Gathering Acrylic Rod

### Light Gathering Acrylic Rod (Fluorescent) - 500mm lengths

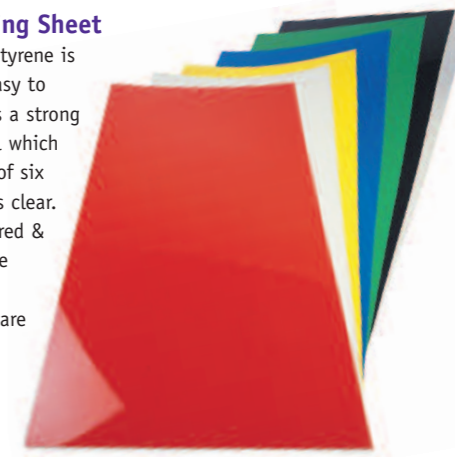
ACRR-FR-4	4mm diameter - Red	£0.75
ACRR-FB-4	4mm diameter - Blue	£0.75
ACRR-FG-4	4mm diameter - Green	£0.75
ACRR-FY-4	4mm diameter - Yellow	£0.75
ACRR-FR-6	6mm diameter - Red	£1.25
ACRR-FB-6	6mm diameter - Blue	£1.25
ACRR-FG-6	6mm diameter - Green	£1.25
ACRR-FY-6	6mm diameter - Yellow	£1.25
ACRR-FR-10	10mm diameter - Red	£2.10
ACRR-FB-10	10mm diameter - Blue	£2.10
ACRR-FG-10	10mm diameter - Green	£2.10
ACRR-FY-10	10mm diameter - Yellow	£2.10



## High Impact Polystyrene - (H.I.P.S)

### Vacuum Forming Sheet

High Impact Polystyrene is economical and easy to vacuum form. It is a strong attractive material which comes in a range of six bright colours plus clear. It can also be scored & snapped. Suregrave supply H.I.P.S in sheet sizes which are convenient for school use (being compatible with most school vacuum formers).



### Sheets of 915mm x 610mm

PS-BLK-1-96	Black 1mm	£1.95
PS-W-1-96	White 1mm	£1.95
PS-R-1.5-96	Red 1.5mm	£3.45
PS-BLU-1.5-96	Blue 1.5mm	£3.45
PS-G-1.5-96	Green 1.5mm	£3.45
PS-Y-1.5-96	Yellow 1.5mm	£3.45
PS-BLK-1.5-96	Black 1.5mm	£3.45
PS-W-1.5-96	White 1.5mm	£3.45
PS-W-2-96	White 2mm	£3.95
PS-BLK-2-96	Black 2mm	£3.95
PS-W-3-96	White 3mm	£5.30

PS-BLK-3-96 .....Black 3mm .....£6.00  
 PS-C-3-96 .....Clear 3mm .....£11.15

**Sheet size 457mm x 305mm**

PS-\*-1-96-C.....1mm in above colours .....£1.20  
 PS-\*-1.5-96-C .....1.5mm in above colours.....£1.96  
 PS-\*-2-96-C.....2mm in above colours .....£2.10  
 PS-\*-3-96-C.....3mm in above colours .....£3.15  
 PS-C-3-96-C.....3mm Clear .....£4.60

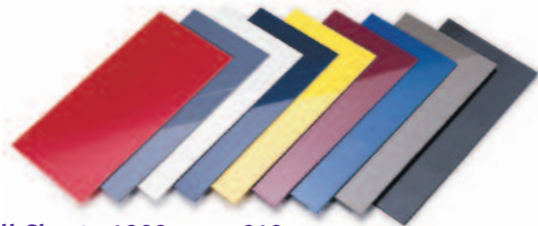
\*Please specify colour required



TELEPHONE 0191 417 4505

**ABS Sheet**

ABS is a strong versatile material which can be fabricated in a number of ways and can be painted with cellulose paints. It is easy to cut, drill, saw and cement with a liquid solvent. It can be vacuum formed, but may require drying before use as it is hygroscopic.



**All Sheets 1220mm x 610mm**

ABS WHITE 0.80 .....0.80mm White .....£5.50  
 ABS RED 0.80 .....0.80mm Red .....£5.50  
 ABS BLUE 0.80 .....0.80mm Blue .....£5.50  
 ABS BLACK 1.60 .....1.60mm Black .....£7.75  
 ABS WHITE 1.60 .....1.60mm White .....£7.75  
 ABS RED 1.60 .....1.60mm Red .....£7.75  
 ABS BLUE 1.60 .....1.60mm Blue .....£7.75  
 ABS BLACK 2.32 .....2.32mm Black .....£11.05  
 ABS WHITE 2.32 .....2.32mm White .....£11.05  
 ABS RED 2.32 .....2.32mm Red .....£11.05  
 ABS BLUE 2.32 .....2.32mm Blue .....£11.05  
 ABS BLACK 3.00 .....3.00mm Black .....£14.35  
 ABS WHITE 3.00 .....3.00mm White .....£14.35  
 ABS RED 3.00 .....3.00mm Red .....£14.35  
 ABS BLUE 3.00 .....3.00mm Blue .....£14.35

FREEFAX 0800 616 539

**PCB Board**

High Quality 1oz single sided copper clad boards in epoxy glass material. Thickness - 1.6mm, suitable for 2D cutters (see page 17).  
 Sheet Size .....1+ .....20+ .....50+  
 100 x 160mm.....£1.05 .....90p .....76p

**Geliplex**

Geliplex, for making moulds from 3D products. Can be microwaved and poured over your 3D prototype to make a mould, which can then be melted down after use.  
 GELIPLX - 1kg pack .....£13.85 each

**APET**

APET is a clear material which can be vacuum formed and is ideal for blister packs. Less brittle than PVC after forming, it is of food grade and suitable for moulds etc.



**Clear - 545mm wide - cut to length**

APET-02-545 .....0.25mm x 545mm per linear metre .....£0.90  
 APET-05-545 .....0.5mm x 545mm per linear metre.....£1.65

FREEFAX 0800 616 539

**CAD/CAM Vinyl**

Self adhesive CAD/CAM vinyl comes in a range of vivid colours and offers an excellent alternative to painting as a means of finishing projects. Designs can be cut out using scissors or modelling knives as well as Roll Fed Plotters (*see page 16*). Vinyl should always be applied to surface using application tape.



**Gloss - 620mm wide cut to length per linear metre**

121/2195/620.....Poppy Red .....£1.70  
 121/4564/620.....Sky Blue .....£1.70  
 121/4135/620.....Royal Blue .....£1.70  
 121/6998/620.....Grass Green .....£1.70  
 121/8740/620.....Canary Yellow .....£1.70  
 121/9572/620.....Black .....£1.60  
 121/9500/620.....White .....£1.60  
 121/9201/620.....Silver Gloss .....£1.70  
 121/9101/620.....Gold Gloss .....£1.70

**CAD/CAM Vinyl Application Tape**

**Sold per 91 linear metre roll**

APP/M/610 .....610mm wide .....£38.25  
 CUTTING/1 .....first cut per roll .....£3.30  
 CUTTING/2 .....cuts thereafter .....£1.15

TELEPHONE 0191 417 4505

## PVC Foam Sheet

PVC foam sheet is only half the weight of standard PVC sheet, yet remains rigid, weather resistant, and non-warping. More widely known as Foamex it can be easily fabricated using a host of techniques, in many cases making it a viable alternative to MDF or Acrylic.

### 1220mm x 610mm

PVCF-R-3-126	.....Red 3mm	.....£8.00
PVCF-BLU-3-126	.....Blue 3mm	.....£8.00
PVCF-GR-3-126	.....Green 3mm	.....£8.00
PVCF-Y-3-126	.....Yellow 3mm	.....£8.00
PVCF-BLK-3-126	.....Black 3mm	.....£8.00
PVCF-WH-3-126	.....White 3mm	.....£6.10
PVCF-R-5-126	.....Red 5mm	.....£11.70
PVCF-BLU-5-126	.....Blue 5mm	.....£11.70
PVCF-GR-5-126	.....Green 5mm	.....£11.70
PVCF-Y-5-126	.....Yellow 5mm	.....£11.70
PVCF-BLK-5-126	.....Black 5mm	.....£11.70



## Polypropylene Sheet - Cut to size available

Polypropylene is an ideal material for producing containers, and boxes. It is very tough, and almost impossible to tear. An excellent choice for binders and folders as it can be scored & hinged.

### Solid Colours 1100mm x 650mm x 0.8mm

PP-R-08-116	.....Red	.....£2.75
PP-BLU-08-116	.....Blue	.....£2.75
PP-G-08-116	.....Green	.....£2.75
PP-Y-08-116	.....Yellow	.....£2.75
PP-BLK-08-116	.....Black	.....£2.75

Available in 0.5 and 0.28mm thickness .....Call for details

### Transparent Colours 1100 x 650 x 0.8mm

PP-TBLU-08-116	.....Blue	.....£3.30
PP-TG-08-116	.....Green	.....£3.30
PP-TY-08-116	.....Yellow	.....£3.30
PP-TP-08-116	.....Pink	.....£3.30

Available in 0.5 and 0.28mm thickness .....Call for details



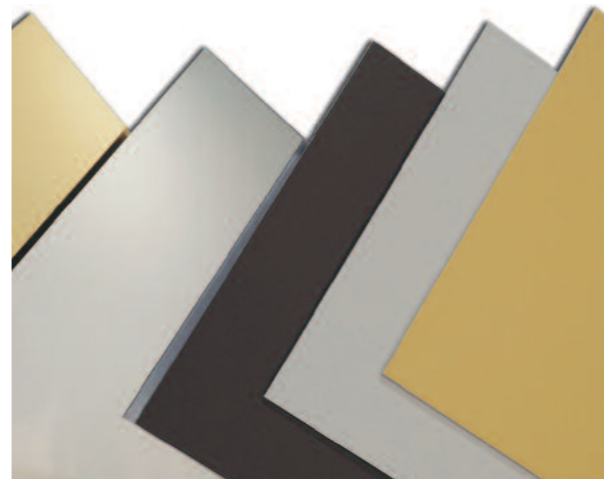
## Plotter Blades

ROL KNIFE  
Puma / Roland Plotter Blade  
for Standard Vinyls .....£27.10



## Aluminium Sheet

**Sheets of 1250mm x 625mm**  
ALU-12-126 .....1.2mm Thick .....£15.90



## Flexible Engraving Foil - 2 ply

### Sheets of 800mm x 440mm x 0.2mm

FF 4000	.....White/Black	.....£20.30
FF 4010	.....Black/White	.....£20.30
FF 4020	.....Red/White	.....£20.30
FF 4030	.....Yellow/Black	.....£20.30
FF 4040	.....Green/White	.....£20.30
FF 4050	.....Blue/White	.....£20.30
FF 4075	.....Brushed Gold/Black	.....£20.30
FF 4076	.....Gloss Gold/Black	.....£20.30
FF 4085	.....Brushed Silver/Black	.....£20.30
FF 4086	.....Gloss Silver/Black	.....£20.30
FF 4090	.....Apple Green/White	.....£20.30
FF 4095	.....Aluminium/Black	.....£20.30

Very easy to engrave, flexible, multilayered foil, ideally suited for cylindrical applications. Complete with self adhesive backing yet only 0.2mm thick, it can be cut and adhered to round and irregular surfaces without difficulty. Highly suited to exterior applications.



## Pre-cut Badges including pins & bevelled edges

### Micromatt 1.5mm Badges

Colours as page 24

### Other sizes & options available

Price per 20 Badges.

BAD-\*-6020 .....60mm x 20mm .....£7.65

BAD-\*-6025 .....60mm x 25mm .....£9.05

BAD-\*-7035 .....70mm x 35mm.....£10.10

BAD-\*-7525 .....75mm x 25mm .....£9.70

BAD-\*-7535 .....75mm x 35mm.....£11.15

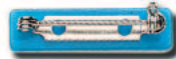


## Badge Pins including self adhesive backing

100-BP1 .....Bar Pin  
41mm .....£0.26



100-BP15 .....Bar Pin  
30mm .....£0.26



100-BP9 .....Plastic Bar Pin  
38mm - White .....£0.26



100-BP10 .....Plastic Bar Pin  
38mm - Black.....£0.26



100-BP5 .....Plastic Bulldog Clip  
.....£0.26  
(minimum of 20 per order).



## 3D Modelling Board

Modelling foam is popular for making 3D prototype products from Pro/DESKTOP® drawings. However, there has always been a problem with this material of the quality of finish. We have been looking for a material which will take fine machine detail and be capable of taking a paint finish. We have found a material that meets these criteria.

Modelboard is manufactured for industry for 3D machine modelling; it does not blunt the cutter, giving a much longer life from the tool. Some schools are using this to replace MDF for 3D machining.



### Type 1 (Colour - Blue)

Foam block with a fine grain. Can be sawn, carved etc. It is rigid, light and machines easily making it the perfect material for the creation of fast prototypes. This foam is suitable for daily workshop use when modelling, but does not vacuum form well.

### Sheet Size.....1200 x 600mm

STY-25-126 .....25mm thickness .....£11.00

STY-50-126 .....50mm thickness .....£17.55

STY-75-126 .....75mm thickness .....£29.80

### Type 3 (Colour - Light Brown)

Modelling boards with especially good machinability. Suitable for the production of prototypes and master models, architectural and foundry models, cores.

Prices	Size	1 - 4	5 - 9
MB-3-25	500 x 300 x 25mm	£34.50	£31.00

WHICH CAM MACHINE?	CAM machine type							
	Wizzard	Excalibur	Gryphon	Laser	3D Printer	Col Printer	Plotter	Sublimation
Price range (£)	£5,000	£9,000	£15,000	£7k - £20k	£17,000	£12,000	< £1,000	£800 - £2k
Area (cm)	30x30cm	64x34cm	60x1205cm	A4 - A0+	20x25x20	>A3	30 or 60	Unlimited
<b>GCSE Subject</b>								
Electronic Products	✓	✓		✓	✓		✓	✓
Suregrave CAM machines can be used for PCB production, enclosures and control panels, Lasers enclosures and control panels and RP enclosure and aesthetic models, TMT circuit board resists.								
Food Technology	✓	✓		✓	✓		✓	✓
Suregrave CAM used to manufacture food packaging, Lasers will produce packaging and decorate food-stuffs, RP can produce food moulds, models of food and point of sale.								
Graphic Projects	✓	✓	✓	✓	✓	✓	✓	✓
Suregrave CAM Laser and RP used to produce 3D artefact/product.								
Industrial Technology	✓	✓	✓	✓	✓	✓	✓	✓
Suregrave CAM, Lasers and RP can be used to study batch & mass production and simulate industrial environment.								
Product Design	✓	✓	✓	✓	✓	✓	✓	✓
Suregrave CAM, Laser and RP can be used to manufacture many products and 3D artefacts in many mediums.								
Resistant Materials Technology	✓	✓	✓	✓	✓	✓	✓	✓
Suregrave CAM, Laser and RP can be used to manufacture projects including educational toys to furniture, project enclosures, products and 3D artefacts.								
Systems & Control Technology	✓	✓	✓	✓	✓	✓	✓	✓
Suregrave CAM Laser and RP can be used to manufacture moving parts and PCB for electronic based projects, RP enclosures and products.								
Textile Technology				✓	✓			✓
Suregrave Lasers can be used to cut and decorate fabrics, produce stitching holes in leather, Laser and RP systems can be used to produce buttons & fixings.								
Engineering	✓	✓	✓	✓	✓	✓	✓	✓
Suregrave CAM, Laser and RP can be used to manufacture projects including educational toys to furniture, project enclosures, products and 3D artefacts.								
Manufacturing	✓	✓	✓	✓	✓	✓	✓	✓
Suregrave CAM, Laser and RP can be used to manufacture projects including educational toys to furniture, project enclosures, products and 3D artefacts.								
Catering (Industrial Catering)				✓				

Here are the objectives most of our customers want to achieve when purchasing a machine for use in Design Technology and Engineering Education.

**Increase**

Students access to CAD/CAM  
Speed of production  
Range of projects produced

**Improve**

Students finished projects  
The examination % grades  
The quality of projects produced

**Reduce**

Wasted materials  
Time setting up the machine  
Underachievement

**Save**

Money on investing in a major purchase  
Time in machining projects  
Time in training students

**Gain**

Reliability of a machine made for the classroom  
Technical Support when you need it  
Quality products made by students with a wide range of abilities

We recognise that education invariably has to budget carefully, so to assist in this area Suregrave have developed the "Suregrave Education Finance Solution". This lease facility is managed by First Financial (UK) Ltd on behalf of Suregrave

The benefit of this lease solution is that it is based on a guaranteed flat interest rate which will remain the same for the period of the lease (irrespective of Bank of England interest rates - your quarterly repayments will remain the same). At the end of the lease period for one off further payment of £50.00 we are able to offer a transfer of title of goods. Written quotations are available on request.



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