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ISO 9001:2015 Certification No.207798

◆ Who we are

FB-AVAK is a Hampshire based company working within the vacuum forming industry and specialising in volume manufacture supported by a unique design and prototyping service.



In 2008 Fenwood Bowen Limited (est. 1949) bought the well-established firm of Avak-MPP Limited and formed a new trading name of FB-AVAK. Both businesses were moved to our new 16000 sq. ft. freehold premises in Bordon on the Hampshire/Surrey border.

Since 1949 we have gained a wealth of knowledge within the industry and we enjoy sharing this with our well established and varied customer base. We have a customer-focused approach to design and will support your product development team with meaningful and realistic input to bring your project to life.



◆ Why choose us?...Geared for delivery

There is a good reason why successful businesses bring their vacuum forming requirements to FB-AVAK; they are assured of the versatility, innovation and attention to detail that we promise all our customers.

Our comprehensive 'under one roof' policy starts with the introduction of our practical advice on both the design and parameters of your requirements, and technical visits can be arranged to discuss the origination of your design, providing a realistic and timely solution.



“ *Versatility, innovation and attention to detail that we promise all our customers.* ”

Utilisation of the latest Mastercam CAD/CAM software enables prototype tooling to be machined directly from your chosen file format, giving a quick response time for sample evaluation.

FB-AVAK offers extensive experience gained over many years providing high quality vacuum formed parts to a wide range of industries. We are a small company with high standards and we are duly proud of our recently gained ISO9001 2015 certification.

We can supply simple mouldings or complicated multi-part assemblies and we can achieve results that we would challenge other vacuum forming companies to match!

FB-AVAK works with several leading motorsport teams, we make medical training simulators, components for commercial vehicles, expedition sledges, and many other creative parts for our customers, together with a large number of covers, guards and enclosures that form essential components in customers' products. We understand that quality and delivery are paramount.

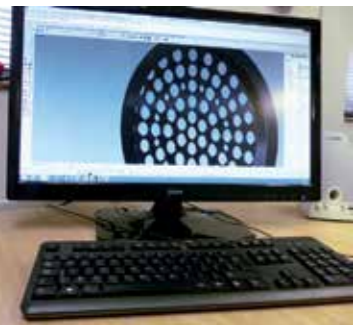


◆ Prototype & Development

Geared for support

Rapid low volume manufacture

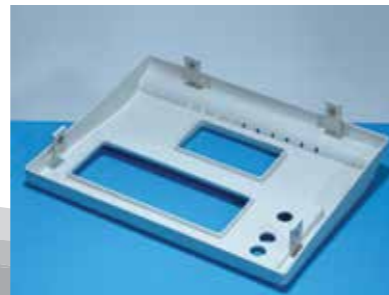
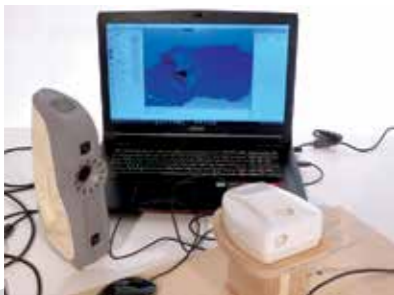
The first stage of many new developments will start with the requirement to produce a prototype. The vacuum forming process encompasses the resources that many designers require at some point, coupled with our simple approach to tooling FB-AVAK is able support your project throughout its development process.



“We have the ability to produce one-off components in a scale currently well beyond the scope of 3D printing from low cost tooling and yet still offering a fast turn-around.”

Additionally we offer a hand-finishing process useful for validating development samples and first off components, prior to further investment in CNC machining jigs which, once in production, may be required to trim more complex components.

As part of the development process we are also able to reverse engineer components. Where tooling is no longer available we have the facility to create a 3D scan from an original part from which we can produce the necessary tool data allowing us to cut a new master pattern and therefore produce a replica component.



◆ The Tooling

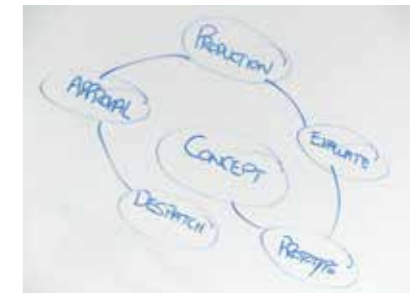
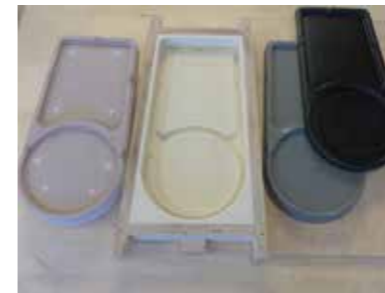
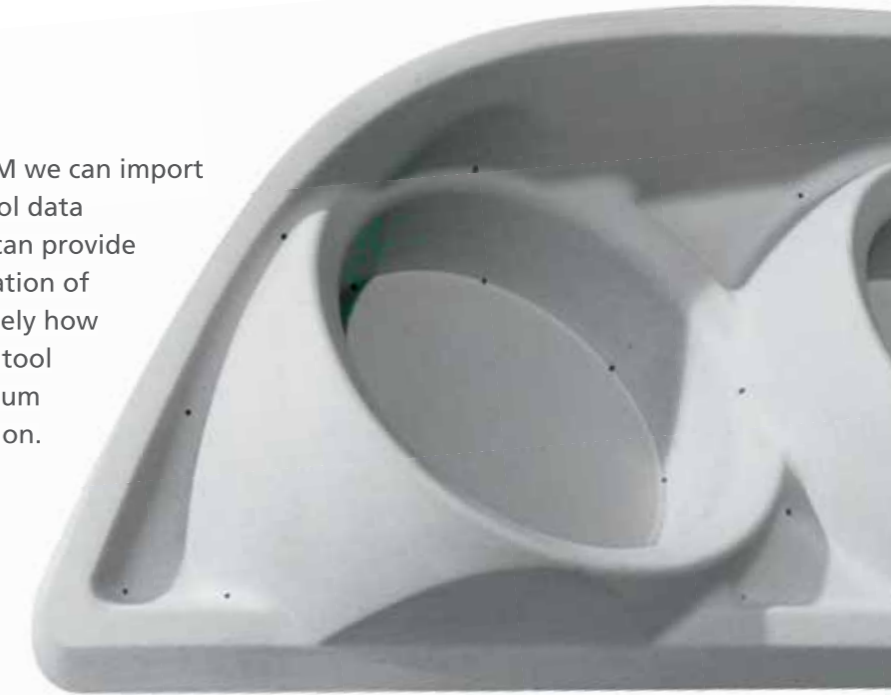
Geared for manufacture

The step system

Using our latest Mastercam V10 CAD/CAM we can import your native file format and create the tool data required to cut the master pattern. We can provide you with an online Cloudviewer presentation of this, which will enable you to view precisely how the part will be manufactured. Once the tool is machined, prototype parts can be vacuum formed in order to validate fit and function.

We stock a wide range of composite boards to choose from and we can advise on the most suitable for your application.

The next step will be determined by the potential volume required. The Step system is totally scalable so you could start with just the master and add tools as the demand increases. To scale the tooling up to a multi-impression tool we use an epoxy casting system. Once the master pattern has been validated we take a negative mould and from this we can cast as many impressions as required.



Our production tooling carries a lifetime guarantee.

For larger components it may be necessary to create aluminium tooling. This process is completed in a similar way by creating the necessary foundry pattern directly from your original master.

◆ The Workshop Geared for production

FB-AVAK's workshop facilities provide customers with a complete manufacturing solution. Our in-house facilities provide mouldings up to 2mtr x 1.2mtr coupled with 5 axis CNC machining. Our designated assembly facility allows finely-toleranced components to be assembled using colour matched solvent adhesive, or by fitting hidden inserts or stand-off features, allowing parts to be mechanically fixed.

We stock a large range of Tappex inserts, hinges, handles, and other fittings to complete the assembly process.

Fully documented inspection procedures can be geared to your individual requirements.

We offer 5 Axis CNC machining up to 2.5mtr x 1.2mtr with a 600mm Z axis. We manufacture components and assemble multi part assemblies.

We offer additional services such as printing, painting and in addition RFI screening can be incorporated for a fully cosmetic finish.

Low volume start-up options are scalable as demand increases.



Industry sectors include:
medical, automotive, motorsport, aircraft, marine, leisure and engineering disciplines.



◆ What we do...Lots of gear

FB-AVAK offers:

- Small to large volume production runs
- Product development and design
- Vacuum forming from 0.5 to 9.0mm thickness

Our complete in-house tooling facility can offer:

- Foundry pattern making
- 5 Axis CNC machining
- Resin Casting
- CAD/CAM facilities allow prototyping from customers' own files
- Tooling machined in either PU or epoxy board
- Aluminium tooling
- Die cutting tools
- Comprehensive range of traditional patternshop equipment
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We use a wide range of well-maintained specialist machines, including:

- 14 multi-sized vacuum forming machines up to 2000 x 1200mm
- 3 five axis CNC machining centres 1500 x 1000 x 600mm Z axis
- Twin table CNC machining centre 2500 x 1200 x 500mm Z axis
- Die cutting 600 x 600mm
- Precision saws
- Band saws
- Milling centre 3 axis 1200 x 600mm



Our wide range of processes include:

- Vacuum forming
- Hot foil stamping
- Hot wire bending
- Guillotining
- Specialist trimming centre for awkward jobs
- Gluing
- Mechanical assembly
- CNC trimming
- Ultrasonic welding

Moulding in all thermo forming materials:

- ABS
- HIPS
- Extruded acrylic
- PETG
- HDPE
- Polycarbonate
- Boltron/Kydex



Product Sectors

Security • Electronics • Medical
 Automotive • Motorsport • Engineering



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◆ Vacuum Forming ◆ Design ◆ Development ◆ Production ◆ CAD/CAM Tooling ◆ Patternmaking

'FB-AVAK is the trading name of Fenwood Bowen Ltd'