KM 12

2D Structural design, 3D virtual samples and workflow control for packaging and display

KASEMAKE is the result of more than 30 years of experience working with the packaging, display and print industry to produce the most complete collection of specialised packaging and display design tools available anywhere.

AG/CAD

Overview

KASEMAKE, the award winning CAD software written specifically for the packaging, print and point of sale (POP/POS) design markets.

Brimming with intuitive drawing and editing tools, built in style libraries and intelligent plotter control software. Using KASEMAKE and your cutter you can go from conceptual sketch to finished article in minutes.

If you're not quite ready to commit your design to board then you can create a virtual sample of your design with KASEMAKE's integral 3D module.
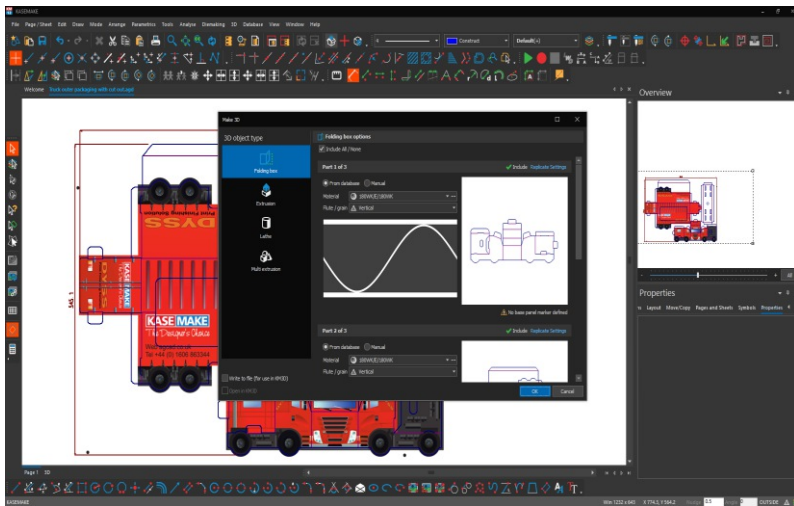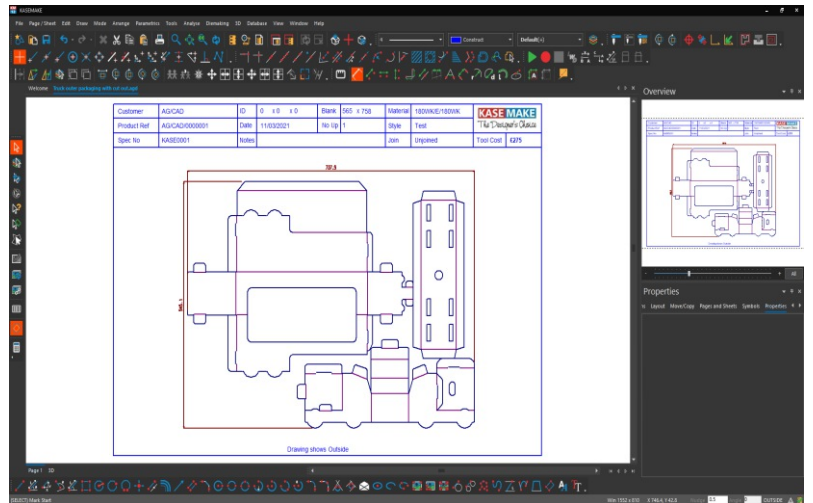

Using KASEMAKE software a custom size corrugated (FEFCO), folding carton board (ECMA), (POP/POS) for display, polymer, structural design board or solid board design can be created in a matter of seconds, ready for estimating, printing, exporting out to a diemaker (typically in CF2 format) or artwork department (typically in Ai or PDF) format, for prototyping on your cutter.

Simply pick a design from the extensive library of styles and feed in the basic sizes and board profile you require. Make on-screen modifications if necessary, or use them as a basis for a bespoke design. Designs can be created from scratch with the user-friendly drawing tools available in the software.

The finished designs are logged into an integral SQL database along with relevant details and can even be folded into 3D with artwork applied for a virtual sample.

KASEMAKE saves time and reduces errors and enables speedy preparation of presentations to clients.
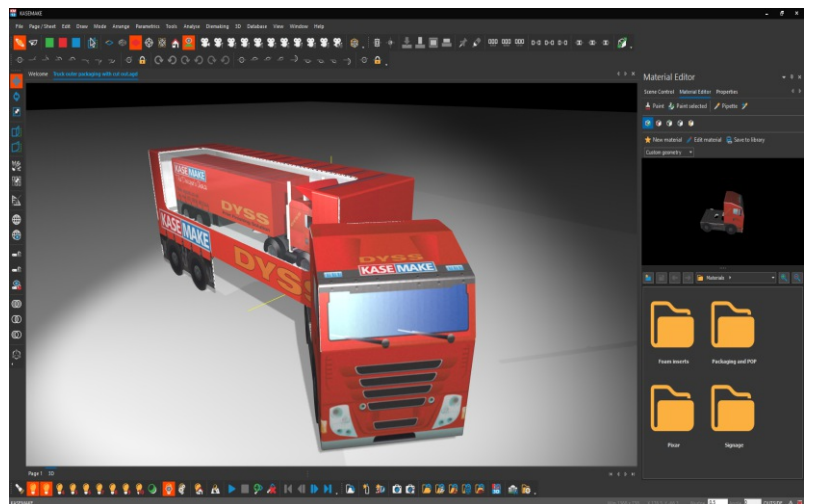
Standard 2D features

2D Drafting Tools

Simplicity, flexibility, speed and power are the concepts underpinning all our drafting tools.

If there's a design conundrum you've encountered, you can bet that KASEMAKE has a tool to solve it. Helpfully organised into functionally similar toolbars, KASEMAKE's wealth of smart drawing tools are available at the click of a button. You don't have to be a computer genius to use the tools either, most operate intelligently based on the elements you're working on allowing for much faster designing.
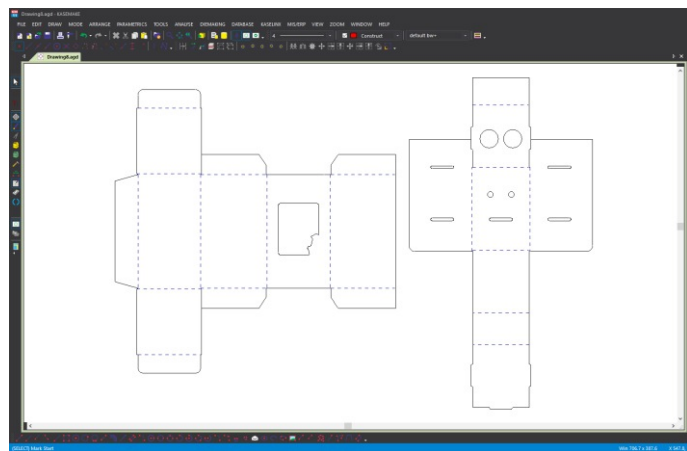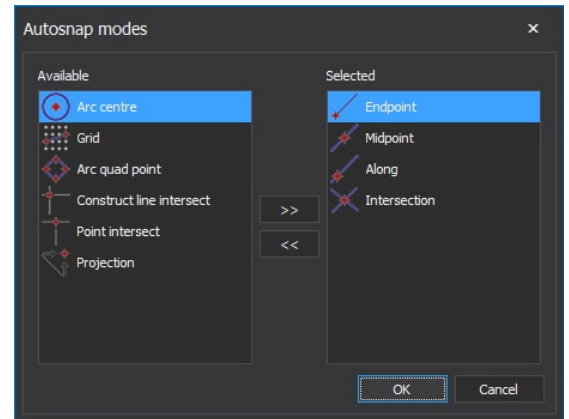

As each tool is selected relevant settings for that tool appear and context menus change to suit what you are likely to do next, making the drawing process as simple, intuitive and automatic as possible. You really will be surprised how much design time KASEMAKE can save you.

Our recommended drawing method is very direct and immediate with no need for construction lines, although these are available should you wish to use them.

Parametric style libraries

New designs in seconds!
You can create a complex new design for a customer in moments using one or more of over 800 built-in design templates. Each template is fully resizable, simply changing parameters such as length, width, depth and material will update the entire structural design instantly. Templates often have a number of different design options each of which can be modified, meaning you have the potential to create thousands of variations in seconds. Design libraries supplied as standard include (FEFCO) for corrugated boxes, (ECMA) for folding cartons, (POP/POS) for counter top and free-standing displays, polymer, structural design board and solid board designs.
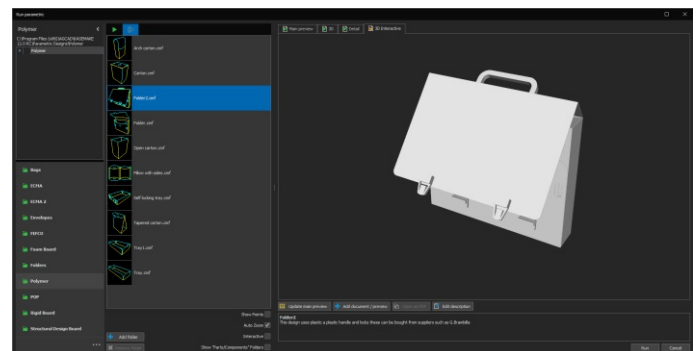
With KASEMAKE you're not limited to the resizable templates we supply. You can create your own parametric designs, however simple or complex, or modify existing designs to suit the tolerances of your board manufacturer or your customer's bespoke requirements. This allows you to build up your own specialised library of instantly resizable designs.

Multipage documents

A KASEMAKE AGD file consist of multiple pages, allowing designers to have fitments and outer components or parts of an FSDU for example, on separate pages all contained within the same document.

3D scenes are also additional pages in the same document. This enables a simple way of organising the component parts of a project.

Pages can be selected by clicking customisable tabs at the bottom of the document. Each page is referenced separately in the database with its own preview and page specific measurements, style and material information.This makes the management of multiple part projects simple.
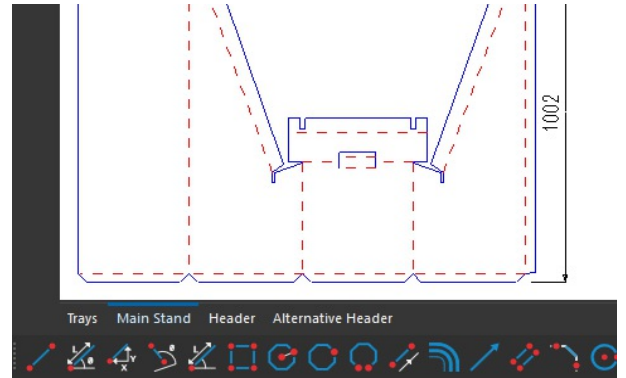
Sheets
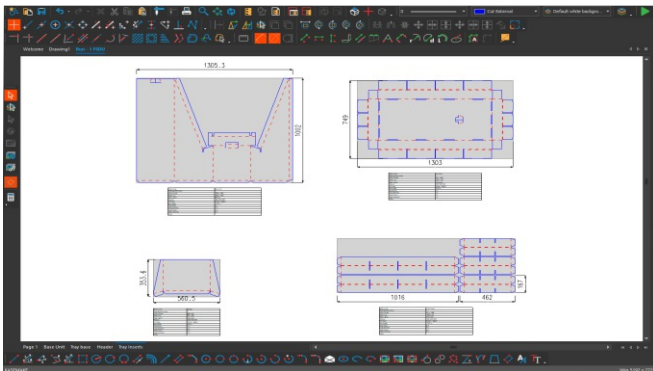
Sheets are a feature in KASEMAKE which allows the information pertaining to many elements to be contained on one page of a drawing.

POS designers often work in this way, as do other disciplines. One of the main advantages of using sheets is that designers and others involved in the production of the item can see at a glance the salient features of an element, such as sheet size, material and machine route. All the information in the sheet is contained in the KASEMAKE SQL database and can be viewed, exported and filtered in many ways. Each sheet has its own section within the database record for the job or document.

Items can be re-sheeted if the specification changes and also a sheet can be completely removed if desired. The fields that you choose to include on your sheets are user configurable in the preferences. All sheeted elements also appear on their own sub page in the drawing document.

Close up of sheet info grid

Sheet name	Header
Sheet quantity factor	1
Knife to knife	358 x 561
Sheet size	561 x 358
Flute / grain	Horizontal
Material	125LT/B/125T
Print type	Screen / digital
Rule length	2.54 m
Glue (face)	0 m
Glue (reverse)	0 m
Tape (face)	0 m
Tape (reverse)	0 m
Notes	

Importing of multi-page 2D PDFs

Many PDF sent from artwork departments consist of multiple pages and one or more of these may contain the cutting path information you need. In KASEMAKE you can choose which pages you want to import from the document and a separate page is created for each page that is imported.

Your Design PCs don't need Acrobat Pro, or PDF splitting utilities as KASEMAKE does all this for you.
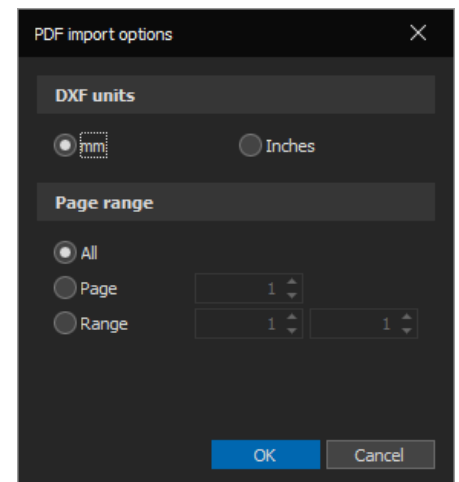
Integral SQL database

KASEMAKE uses a highly configurable SQL database system, adding a whole new level of functionality. The SQL database is very robust and powerful with integral security and user privilege features. SQL is capable of handling vast amounts of data which makes it suitable for all businesses from small companies to global multi-site enterprises.

Features include job management and scheduling; revision histories; handling of multi-part jobs; potential for connectivity to business systems; ability to attach supporting documents to any job. For example photos, Word, PDF and spreadsheet documents; and much more.
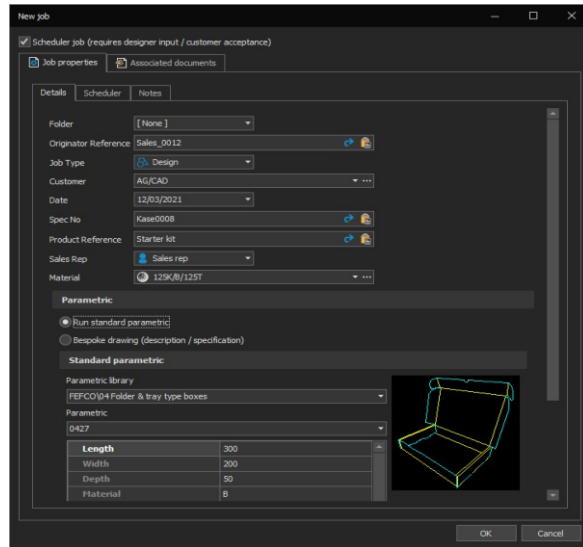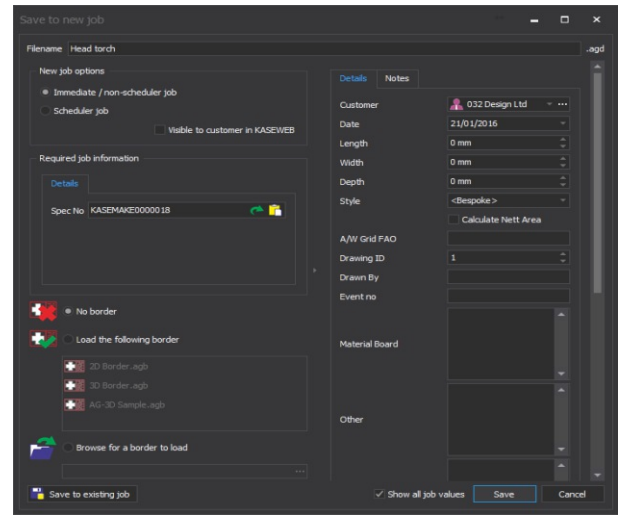
Workflow and scheduling

Communication between design and your sales, production and management departments needs to be as efficient and dynamic as possible. KASELINX is a suite of workflow and job scheduling modules.

KASELINXCREATE is a standalone application with customisable interface. This allows relevant design and sales information to be used to create an enquiry. This can include a parametric design code, dimensional information and even bespoke artwork. Individual enquiries can be captured and sent to KASELINXSCHEDULER, alternatively a number of enquiries can be captured at once and then submitted together. Jobs captured off-site can be submitted when back in the office, or even while off-site if a remote connection to your network is available.

KASELINXSCHEDULER is the heart of the KASELINX system and provides a visual planner that all staff in you organisation can view. A design manager or administrator can check the details of existing or newly submitted jobs. They can add notes and relevant information to each job if necessary and then assign to individual designers.

When a job has been allocated to a designer, it will appear in the designer's job queue waiting to be actioned. After starting a job from the queue, the designer can flag changes in job status as work progresses. This means anyone with access to the scheduler timeline can immediately see what stage the job is at. All status changes, comments, etc. are logged and date stamped for quality assurance purposes.

KM
12
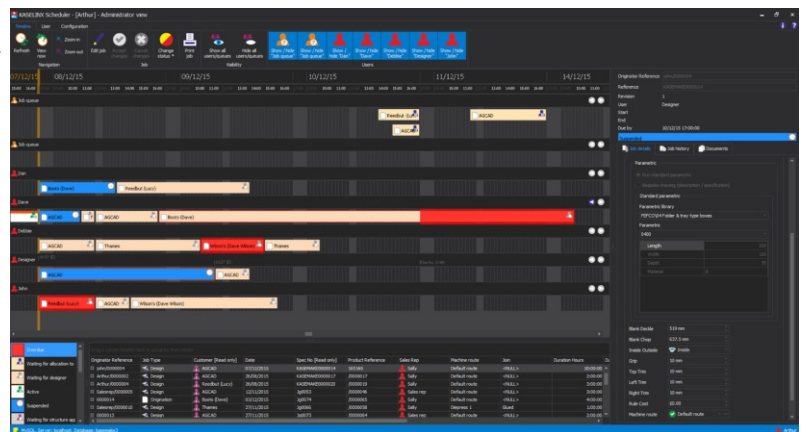
Diemaking

KASEMAKE has all the tools necessary to enable you to produce die layouts quickly and efficiently. Features include:

- Flat and rotary die forme creation with waste knives.
- Generation of female, male and front edge stripping tools.
- Pertinax counter matrix production.
- Compatibility with most rule processors, lasers, milling routers, etc.
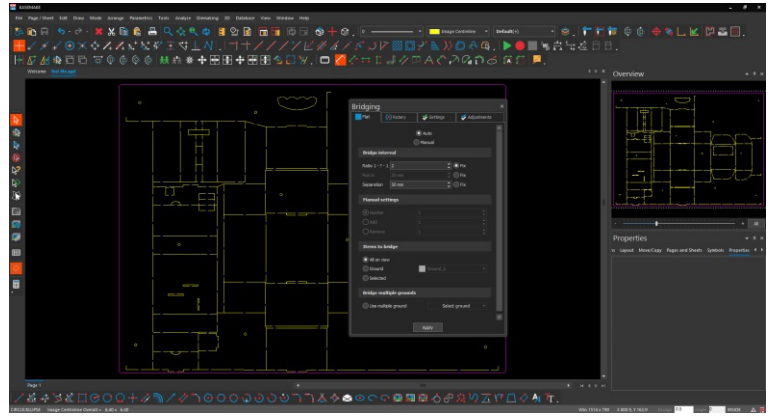
Using the integrated die costing in KASEMAKE, forme costs can be estimated based on rule length, rule type, wood costs, and other miscellaneous costs.
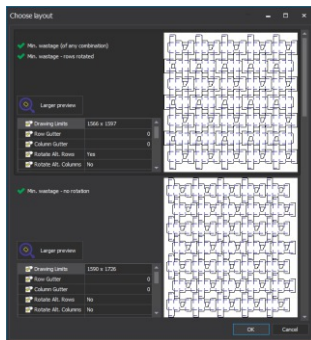
Intelligent layouts

KASEMAKE's clever layout tools can generate multi-up sheet layouts, calculating best usage automatically or working to user-defined constraints. Potentially there may be a number of possible solutions, so the system shows these results in order of greatest utilisation allowing you to choose the solution that best meets your production methods.

Advanced theoretical compression tools

Simply specify a variety of parameters including FEFCO style, pack size, product weight, board information, etc. Then different load scenarios can be catered for such as palletised or containerised, and environmental factors such as relative humidity and whether the pack will be frozen will also be taken into account. The software calculates theoretical compressive strength information and indicates whether the required pack performance is achieved. You can modify different parameters to see live how they affect the pack performance, allowing you to make informed decisions about best material and pack style.
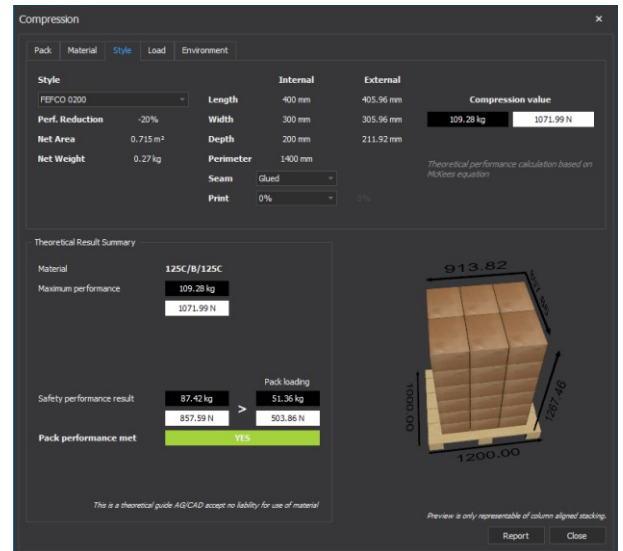
Full theoretical compression reports, customised with your company details, can be generated and sent to your customers or used internally.

Features for machine control

KASEMAKE software is compatible with most output equipment on the market, from printers and pen plotters through to sample tables, digital cutters, lasers and CNC routers. Enhanced functionality is available for control of KM and DYSS cutting machines as well as machines from other manufacturers.

Router Offset tool

KASEMAKE can handle jobs for cutting using a router bit rather than a knife. The router offset tool automatically compensates for the diameter of the router bit making sure that the piece you are cutting is the correct size. The router offset tool is also capable of generating multiple passes to cut tough, dense materials in smaller "bites" to avoid straining the router spindle or damaging the bit. The tool has a further option to automatically add holding tabs to avoid small pieces moving once cut. There is another function to incorporate a finishing pass to give optimum edge quality on the final cut.
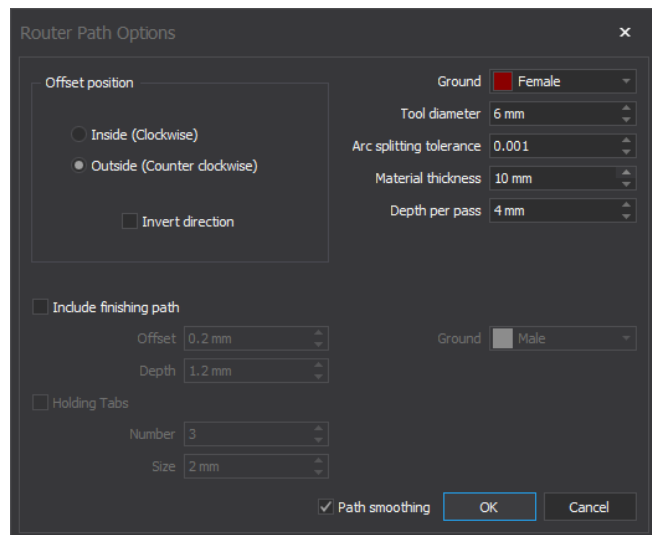
Pocketing tool

The pocketing tool is designed for use with a router to mill out flat areas in materials, for example when insetting/engraving text into a panel. Applied to closed boundaries, this clever tool works out the most efficient paths to mill out each area with minimal lifting of the router bit.
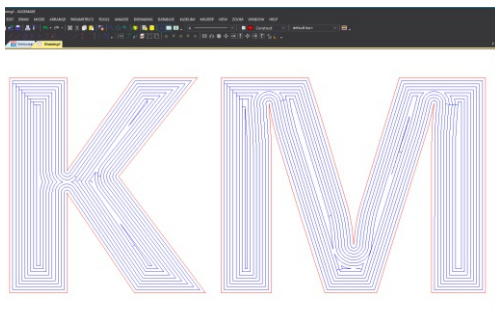

Automated production functionality

Many digital cutting machines have conveyorised transport systems to move media from the back of the machine forward, allowing longer-than-bed jobs or continuous repeat jobs to be handled. KASEMAKE has functionality to control conveyor movement and also to split long jobs into conveniently sized sections. This allows for continuous cutting of roll media or, with a suitable feeder, semi or fully automatic production for sheet media.

KASEMAKE Vision System

The vision system is a clever and fool-proof option that can be specified with new DYSS and KM machines to allow printed jobs to be cut quickly and accurately.
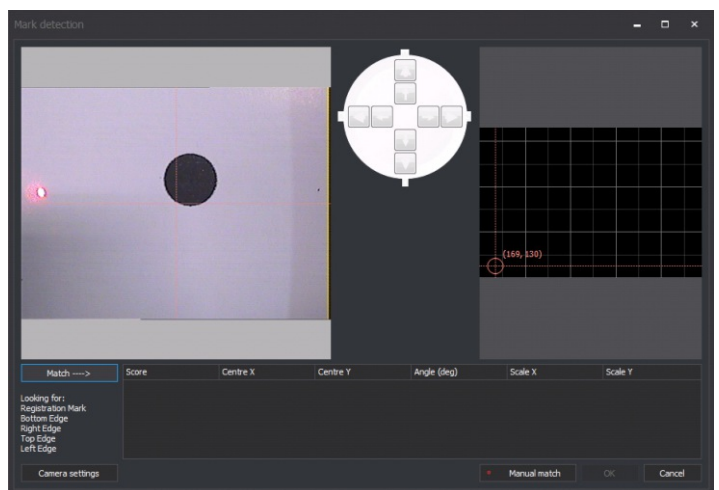
A high resolution colour camera mounted to the machine tool-head automatically identifies registration marks that have been added to the artwork on sheet or roll media. Intelligent and flexible, the system can recognise even badly printed or damaged marks and can be taught to recognise any type of registration mark, particularly useful if someone else has printed the job for you using non-standard marks. The camera can even detect the edges of media to cut unprinted or print face down sheets accurately.

The sophisticated vision software compares the marks or edges found by the camera with their expected positions. Using this information, the software automatically adjusts the cutting paths to compensate for any inaccuracies such as rotation, stretch and skew to ensure highly precise cutting of the job, even when the job is badly positioned or the print is significantly distorted.

KM
12

3D Export options Interactive and animated PDFs

In KASEMAKE not only can you export a 3D PDF that a customer can zoom in on and rotate, but you can send them an interactive PDF that enables them to fold and unfold panels themselves to see how your design is going to work. All this is done using the free Adobe Acrobat Reader. If that doesn't wow the customer sufficiently you can send them an animated PDF which contains a fully interactive movie showing how their design is assembled and folded.

Other than PDF, KASEMAKE 3D can export MP4 movies. Your movies can be watched on a PC, smart phone or tablet and quickly uploaded to YouTube if desired.

KASEMAKE still outputs via POVRAY, WEBGL and in a whole host of proprietary 3D formats such as DAE, OBJ, STL, PLY, 3DS and many more. We can also export to our own in3D software which allows you to produce complex 3D environments.

In addition KASEMAKE can import 3D geometry from a huge range of 3D software packages. In fact we can import over 40 different 3D file formats Including DAE, OBJ, STP, STL, DXF, TER.
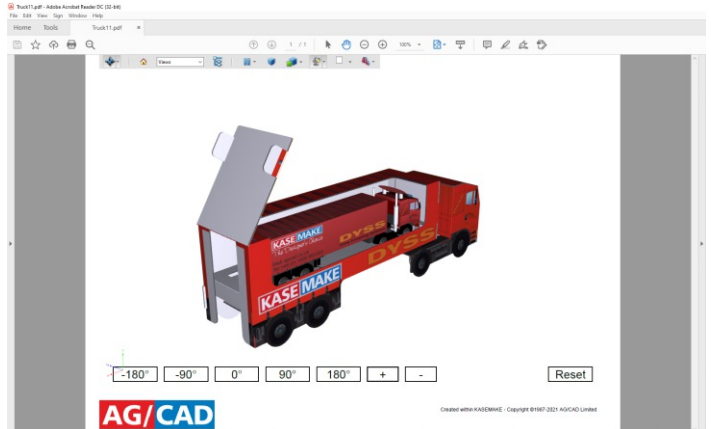
in3D Environment modeling and rendering

Our market-leading in3D software is included with KASEMAKE as standard. This powerful 3D environment visualisation and animation tool allows you to build virtual 3D environments such as a supermarket aisle, shelf units, or even a complete store and then place your products into this 3D space. The software also allows for mocking up and visualisation of exhibition stands, signage and shop-fitting projects. In3D has been designed specifically for this type of work and generates amazing results quickly and easily.

In3D uses an advanced 3D engine which harnesses the full power of your graphics card and allows large scenes to be handled with ease. Lighting, shadow reflectivity and stunning texture effects mean the live 3D view is impressively realistic.

in3D also has a special walkthrough mode which allows you to enter the 3D environment and navigate around it, viewing it from different angles as you would in the real world. This can be incredibly useful for designers, salespeople and even to show to your end customers.

In3D boasts comprehensive 3D animation tools to help you bring your products to life. Animations can be output in MP4 movie format to allow easy viewing on any mobile or desktop device. For maximum portability and compatibility, In3D has a PDF output allowing the recipient to view live 3D animation within standard Adobe Reader.

In3D also instantly generates high resolution images of scenes offering impressive realism without any need for time-consuming rendering post processes. These high quality images can be sent to customers for concept approval, proofing or used for internal purposes.

KASEMAKE 3D tools

The KASEMAKE 3D environment uses advanced material and rendering techniques, KASEMAKE's 3D module enables you to generate fantastic, realistic 3D virtual samples quickly and without the need to use external rendering software such as POV-RAY, although KASEMAKE does still support this. Finished 2D CAD projects can have artwork added to them and then be brought into the 3D environment, where further work can be done. Flooring, walls and shelving etc. can all be added by using an advanced collection of object creation tools.

Materials can be applied to all the elements of a drawing. Sophisticated shadow and lighting effects enable you to make the scene highly realistic, ready for export in a vast number of formats.
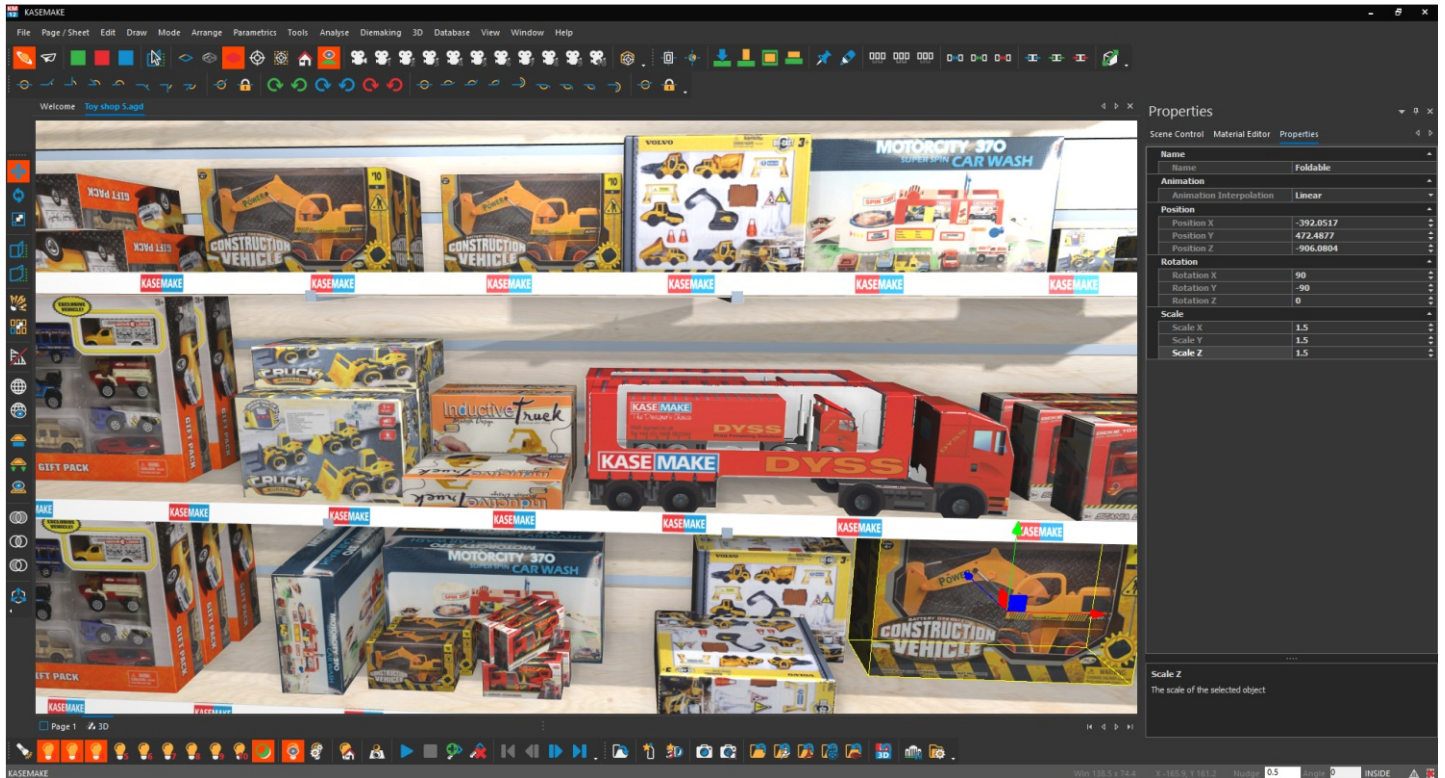

Linked and embedded artwork

Designers now have the option to link to the artwork used in their drawing, rather than embedding it. In this way it's possible to edit artwork outside KASEMAKE (using whatever program created it – illustrator for instance).

When the drawing is opened (or the user clicks the refresh artwork button) then the artwork is reloaded including any modifications, saving design time in having to refold the 3D object with the new artwork.

A number of new effects can be applied to artwork in the 3D module to add realism and to demonstrate real world effects like foil blocking and spot UV.

Furthermore the liner quality on a sheet of corrugated board can be simulated; this is all controlled by the material editor dialog see image to the right.

KM 12
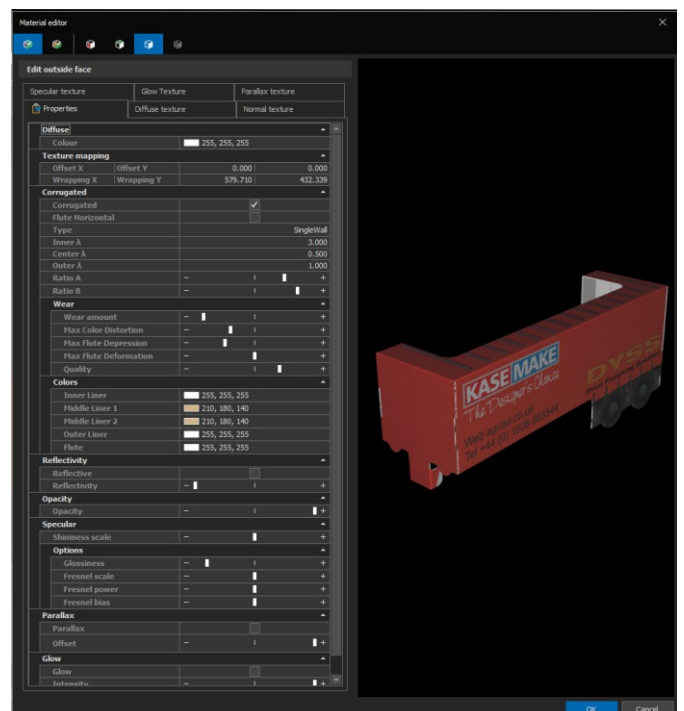
KASEMAKE standard functionality

**KASEMAKE is a fully featured software package
and always includes all of the following as standard:**

- User friendly, intuitive interface.

- Intelligent and productive drafting tools designed specifically for packaging, display and sign/exhibition work. No need for construction lines.

- Over 800 resizable parametric design templates. FEFCO for corrugated boxes; ECMA for folding cartons; POP/POS for counter top and free-standing displays; plus many more. Modification and advanced creation of parametric templates allowing you to fine tune or build your own new specialised library of resizable designs.

- 2D import formats including AI, PDF, EPS, CF2, DXF, DWG, DDES, DDES3, HPGL2D.
- Export formats including AI, PDF, EPS, CF2, DXF, DWG, DDES, DDES3, HPGL, Highcon Euclid.

- Professional, customisable border frames for printing and document distribution.
- Job analysis and costing features Integrated
- Customisable SQL database for logging of job data, revision history storage, advanced search and report functionality, job allocation, scheduling, monitoring and live job status view.

- Simple and quick 2D to 3D conversion, with or without artwork for virtual mock-ups, proofing, assembly diagrams, etc.
- 3D animation with outputs in live animated PDF or MP4 movie format.

- Instant rendered 3D images with shadows, reflectivity and lighting effects for impressive realism.
- 3D object creation for modelling products such as cans, bottles, furniture, etc.
- 3D import of objects created by other 3D software.
- Full 3D environment builder allowing modelling of supermarkets, exhibition stands etc. With walk-through and advanced visualisation capabilities.

- Multi-up layout generation with intelligent nesting.
- Diemaking tools and forme costing.
- Compatibility with virtually all output devices, plotters, sample makers, rule processors, lasers and CNC machinery.

AG/CAD

For more information contact:

**AG/CAD Limited
KASEMAKE House
Barlow Drive
Winsford
Cheshire
CW7 2JZ
T: 01606 863344
E: info@agcad.com
www.kasemake.com**

KM
12