

Rating



Review by

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Profession:

Independent CAD trainer (Various packages)

System Requirements:
(As stated)

Intel Pentium 4, 2.2GHz Processor or AMD Athlon 64
750MB Hard Drive space, 512MB RAM
Microsoft Windows Home basic/ Home Premium/
Ultimate Business/ XP/2000
1024x768 VGA with true colour
Microsoft Internet Explorer 6.0 SPI or higher

Background information

If you speak to anyone in the construction industry and mention the name AutoCAD®, then most will have heard of it if not be using it. Since 1982 AutoDesk (the authors) have in effect led in the world of cad drafting. A quick check on the web states that they have a massive 54% of the 2D and 3D CAD marketplace.

It has been a good many years from when I first started work in this industry, in the early days for a plotter manufacturer, Followed by 12 years in an AutoCAD® Dealership. Then a further six years since setting up my own business training on various cad software packages (including AutoCAD®) plus carrying out 2D and 3D contract drafting and scanning work for my own clients.

There have been many articles written about AutoCAD® over the years, but not many geared towards looking at it from the average house builder/ self builder point of view. So how does AutoCAD® LT 2008 stack up for use by these individuals?

Getting Started

The software comes on a single DVD with a 200 page 'getting started' manual which covers both AutoCAD® and AutoCAD® LT. Inside this are some short tutorials to help get you started with the software, plus a good index/glossary. However AutoCAD® is a 'big' software package and thus some form of training is always a worthwhile investment. (By the way - I'm not just saying this because I teach it!)

Installation

Installation is straightforward and registration can be either on-line or via telephone/e-mail. On-line is easiest and works well.

You can get direct support from AutoDesk, although they do tend to promote the Dealer network and encourage you to purchase your licence through them. At the same time it is possible to purchase the optional subscription to the next release (£225+vat) more expense!

One major plus going for AutoCAD® is the fact that it is the 'industry standard' as far as CAD drafting is concerned and most local colleges offer some form of evening training at very reasonable prices.

From the outset, although AutoCAD® LT 2008 (list price £1,150.00 +vat) is an excellent drafting tool and widely used by many of my own architectural clients, in it's present configuration however it has no

'real' architectural drafting tools. I.e.: there no pre-set libraries of walls/ doors/ windows / staircases/ architectural symbols etc.

Therefore a great many LT users, who can't afford the £4k plus price of 'AutoCAD® Architecture®', purchase add-on libraries/ utilities to compliment it.

You can however create your own symbol libraries of 'standard' components ('blocks') and save them away in the 'design centre' or 'tool pallets' that are available for this task. There are a few architectural symbols included in the design centre, but they are imperial sizes.

That said the web is full of manufacturers symbols in the .dwg format that AutoDesk has pioneered since the early days. The Internet is also a great source of help/ tutorials / information and answers to questions. I quite often find the answer to a client's problem here; it just takes a fair bit of digging if it is a more obscure issue.

To ensure that this review of the software is fair I am using a simple ground floor layout and will create walls/ doors and windows, stair to enable me to look at the software further.

A tour of the software

If you are going to start to draw a building with doors/windows/roof/furniture etc: you need to create the various layers to place this geometry onto. This is standard practice for all CAD drafting work and as AutoCAD® has no automatic layering creation you have to go into the 'layer properties dialog' and create them yourself. Once layers are created they can be used for placing the various elements on, plus re-used, copied across from one drawing to another or saved in a 'template' (.dwt) drawing for re-use later.

At the outset AutoCAD®, does not use sheets and scales, when you open a blank drawing you start drafting on a small A3 size area – so you have to define your own 'limits' to draft into (this is known as model space) – all at 1:1 and then scale to fit a particular sheet size (paper space or layouts). Layouts are very powerful and allow easy placement of views at different scales on the same drawing sheet.

Creating walls

I created the layers for walls...outer, outer cavity, inner cavity and internal wall with the relevant colours and a continuous line style and started to draft the outer wall.

AutoCAD® LT 2008 has no multiline tool (ie: you can't draw a cavity wall in one go), only a line tool and a polyline tool. If you use the polyline tool (as opposed to line) this makes the creation of the wall lines much easier. I am however confident that the self-taught beginner would do this the hard way and use just single lines unless told / shown otherwise. The 'dynamics' help here as you get dimensions on the end of your cursor and can type in distances required 'at the cursor'. 'An ortho tool' also locks your line at right angles for you if required.

Once the outer wall line is created it is a simple matter to offset inwards by the required values to create the whole wall and change each to the correct layer.

The inner walls again are created by similar methods, you do however have to understand and set-up the snap functions ('OSNAP') to place and junction these. You also need to 'break in' manually using the AutoCAD® 'trim' command if you have an internal structural wall hitting a structural cavity wall.

Creating Doors and Windows

That's all the walls done - now to add the doors and windows. As stated previously AutoCAD®, comes with a few 'house designer' symbols inside the 'design centre', all are imperial sizes, so not much use in the UK.

For that reason we have to draft all of these (at least once) to the required size ourselves and once created we can then save away for future use.

Now we can either create the openings to the required size and draw the doors in or do the reverse.

I decided to create the required openings (910mm/ 810mm / 2400mm & 1820mm) and then draft the doors/ windows into these. Again this can be a time consuming task if you have many windows and doors at various structural opening sizes to draw and trim.

Once all of the openings are completed we can add the layers for doors/windows and draw each to size. They can be as simple or complex as required, thus the more intricate will require a fair degree of AutoCAD®, drafting knowledge. After creation of each in plan we can then convert this into an AutoCAD® symbol or 'block' for re-use inserting it into the correct position on the drawing openings. 'Blocks' can be re-scaled to new sizes in AutoCAD®, but this scales all dimensions in that block accordingly...thus the jamb/mullion (if included) would also re-scale when you don't want it to.

Note that any cavity closers would also need to be created and inserted if/as required.

Wall Hatching

Hatching can be added by manually selecting the areas required and picking the hatch pattern needed...single for brick or crossed for block work – solid fill is also an option, plus there are a good number of brick/concrete/clay/sand/gravel etc hatch styles available as standard.

Creating a simple staircase

Next a stair layer was added and a simple quarter turn staircase 900 wide with a 220mm going was drawn using a rectangle and offset lines. No balustrade was included at this stage.

Elevations

With reference to any elevations that need to be drawn, again we would have to draft these totally from scratch, as no detail can be taken from the plans. Thus doors and windows would again have to be drawn to suit and stored away as 'blocks'. Note also that 'blocks' stay with the .dwg once saved, so they would have to be exported into a drawing such as the 'house designer' .dwg in 'design centre' mentioned previously or one of your own creation.

Same goes for creation of sections and any footing/roof/eaves details.

Paper space (layouts)

One of the big plusses of AutoCAD® is that...once the whole drawing is completed this model space drawing can be taken into 'layouts' (also known as paper space) and laid out on for example: an A1 sheet with your own border/ text for existing and proposed with various views at different scales using 'viewports' on that A1 sheet.

Adding text, Printing and Plotting, and 3D

Building regulation text and information can then be added in WYSIWYG format using any standard windows font in paper space ready for submission to planning.

Plots can then be printed with the colour of each layer generally mapped out to pen thickness in the plotter. These can be mono or colour depending on your print/plot capabilities.

There is no 3D as standard inside AutoCAD®, LT although there are some isometric drafting tools.

Conclusion

In general the AutoCAD® interface is vast and not especially intuitive for those coming to CAD without any training or having touched CAD in any form.

That being said, the help system is comprehensive, works well and has some decent examples and short video style presentations. As with all help systems, to get the answer required, it is sometimes 'knowing the correct question to ask in the first place' that gets you there.

Having said that, most who attend college will have come across AutoCAD® in some shape or form. It has, as mentioned earlier got a large slice of the cad marketplace, and can be used for a multitude of drafting tasks from mechanical to architectural to engineering and beyond.

In many ways this total versatility means that it is possibly more complex than some of the other cad packages in the marketplace.

The included symbol libraries are very limited, therefore many users purchase either add-on applications or libraries for use with AutoCAD® LT. Please note however that LT does not have the inbuilt programming languages associated with 'full' AutoCAD®, and thus many of the more advanced add-on's will not run with LT.

So the question I wanted to answer...would it be useful for builders?...well yes, because any frequently used symbols ('blocks') can be re-used over and over, plus modifications can be accommodated more easily compared with work undertaken on the drawing board. How many times have clients who continually change their minds driven you mad!!!

It is however all drawn the hard way and thus without the add-on's you have to resort to a lot of work, creating layers and drafting to build up your symbol libraries. This can sometimes be seen as an advantage as you are learning every time you draw a new symbol. But you are also using up a lot of your valuable time doing this. Plus you need to "use it or lose it", it is not easy to pick up and run with on a very occasional basis.

As far as job costing is concerned - AutoCAD® allows you to take area's, add dimensions and extract the number of say '910 door' blocks and thus it will assist you towards the costing process, but that's it. No automated lists can be created without a lot of work on your part creating symbols with information stored in them (known as 'blocks with attributes').

The AutoCAD dwg format

If you need to share and/or transfer drawings to and from 'other' users, AutoCAD® wrote the book with reference to the .dxf and .dwg file formats, so no one is more compatible with AutoCAD® than AutoCAD®. It all depends if you need to pass information between clients/ contractors. I have seen that this is sometimes the primary underlying reason for any business taking AutoCAD® on board in the first place. There used to be a saying that went "no one ever got sacked for buying AutoCAD®" but does that still ring true?

In my own opinion...and please remember as part of my own business I teach AutoCAD®, as well as other CAD software, so I know how extensively AutoCAD® is used throughout many different disciplines. AutoCAD® LT 2008 is a good drafting system and will definitely do the job, however given the choice between using vanilla AutoCAD® LT and AutoCAD® LT with a good architectural program attached, it's no contest, and once you have used it with the add-on to go back to using it without can be purgatory!

If I were to give mark out of 5 for AutoCAD® for use by the average house builder/ self builder's point of view, then it would be 3.8 - it gains this high mark because...it is still after all the Industry Standard and there are a multitude of books/ help/ information on the internet for users to absorb and learn from.