

MyHatch

User guide

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Preface

Goal of the software

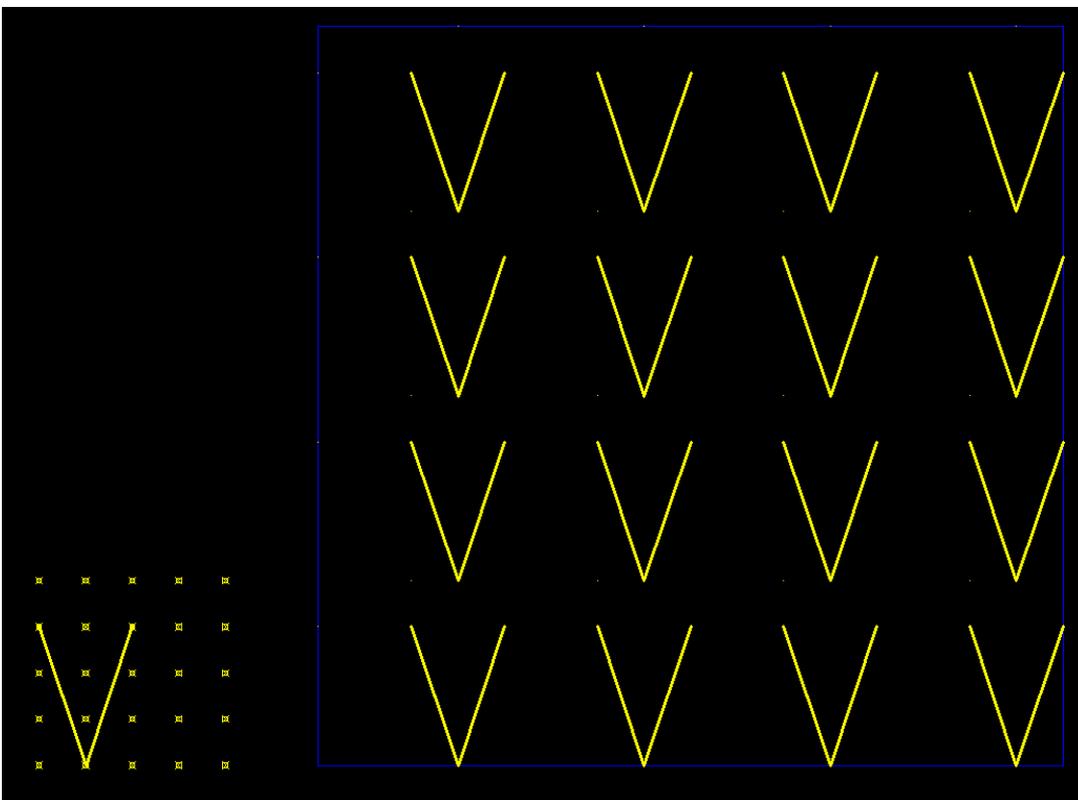
If standard AutoCAD hatches are not enough for you, this program will solve the problem! With MYHATCH you can create from scratch your customized hatches working inside AutoCAD. AutoCAD uses files with .pat extension, that contain the mathematic information for the definition of the sketching, to draw hatches. This program lets you create such files and also store the definitions used for creating the sketching inside a drawing, to make you able to use again them or to subsequently modify your sketch.

Definition of hatches in AutoCAD

The hatches in AutoCAD are defined by bundles of straight parallel lines, eventually dashed. You cannot include in this definition arcs or circles, but only lines, that possibly approximate them. So, the way in which AutoCAD mathematically represents the hatch limits the possibility of customization, especially if you work with manual calculations and writing directly by hand the .pat file (that is a text file whose format is documented in AutoCAD help).

MyHatch program

MyHatch allows you to create the .pat file that contain the strokes working directly within AutoCAD. In this way you can check the results immediately. To create the pattern of the hatch, you have to draw lines within a square grid having customizable size. These lines will define the pattern to repeat to get the hatch. The following illustration is an example of pattern (left) and the result of his conversion to hatch (on the right).



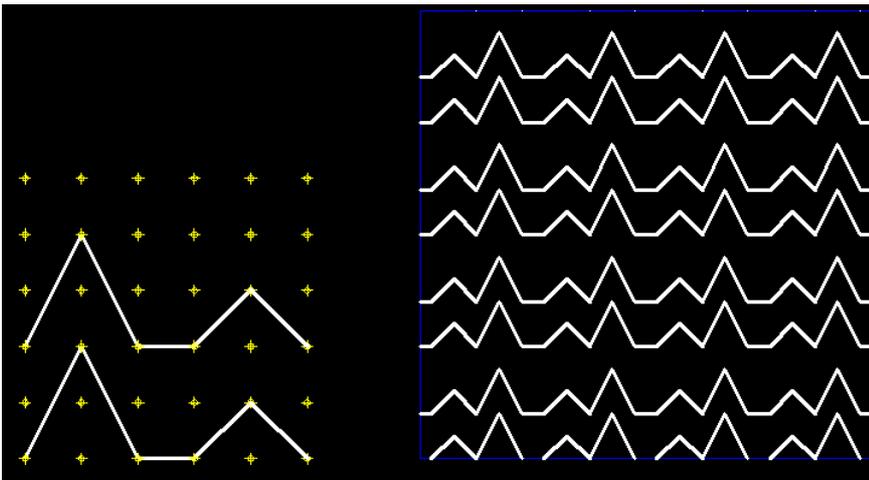
In order for the pattern you draw to be convertible in hatch, it is necessary that the vertices of the lines perfectly match with the points of the grid. During the conversion in hatching, the lines with vertices

that do not fall over the point of the grid are modified automatically to carry the vertices in the nearest grid point. Be careful while drawing, because the lines partially external from the grid are completely ignored by the program.

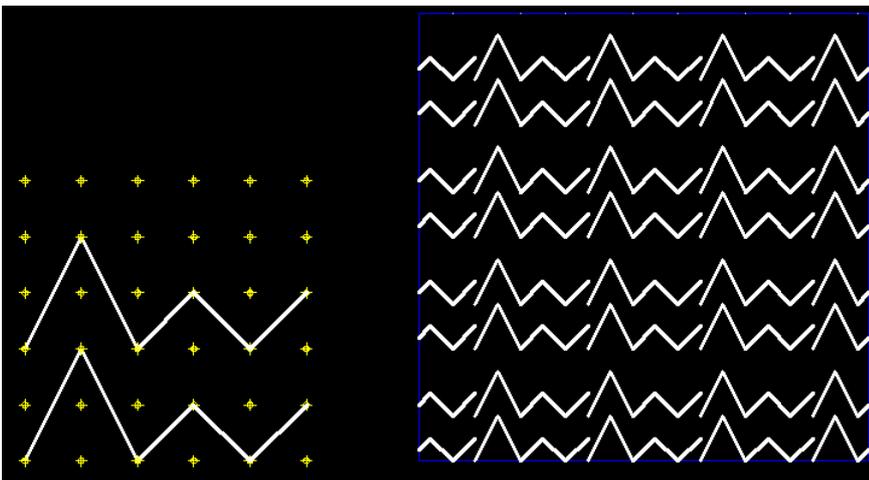
A suggestion: when you create a sketch use the smaller possible number of lines, in order to obtain the lightest AutoCAD hatch, when you'll use it.

Definition of hatch patterns

To define a hatch it is needed to draw a pattern, inside the grid, which, repeated several times, identifies the hatch. Usually a well defined pattern must not present discontinuity between the right side and the left side, or between top and bottom sides. For example in this figure the ending of the lines on the right joins with the beginning of the lines on the left, and the repeated motive does not present interruptions, giving the sensation of representing continuous lines.

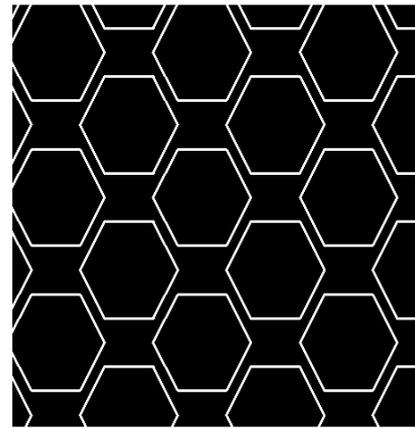
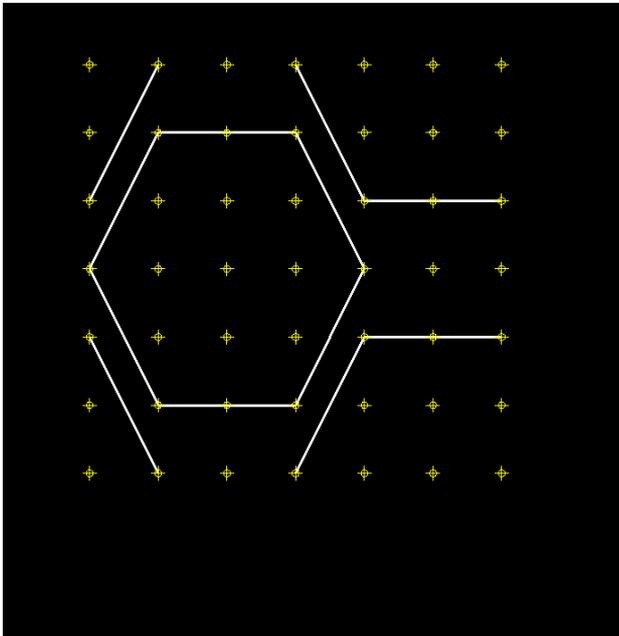
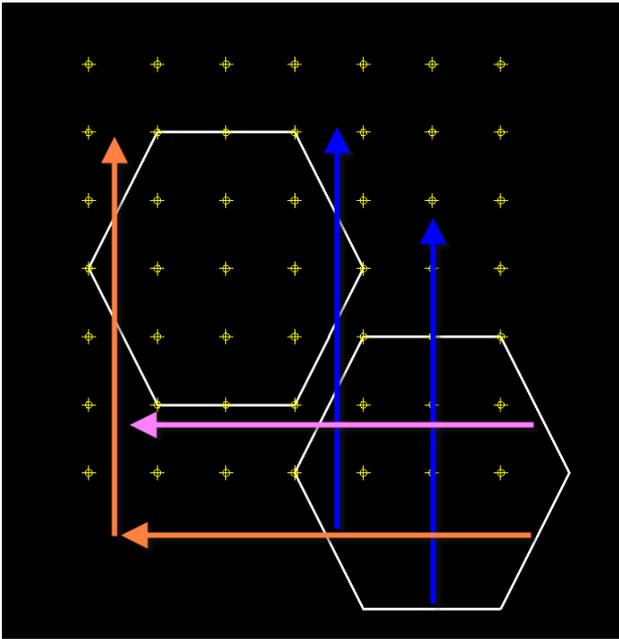


In the next figure, instead, the lines on the right do not end where the lines on the left begin, and a discontinuity is noticed in the repeated pattern forming the hatch.



For this reason the preparation of complex sketching require often a definition of the base figure on an little more extensive area than the grid, in the way of moving then the external elements down or left, repeating the operation until all the lines are internal to the grid.

Besides, the initial lines must pass through the points of the grid in correspondence of the grid limits, and if they cross between the outside and the interior, they must be broken on the limits, to be able to move independently the two resulting lines. In the next figures are illustrated the steps to create a sketching that spreads over the grill and then the operations of moving the lines as previously described.



There is a *Examples* subfolder in the installation folder of the program, where you can find three drawings: *Examples2000.dwg*, *Examples2004.dwg*, *Examples2007.dwg*. Those drawings contain some examples of definitions of hatches, stored in the drawing (see the paragraph How to use hatches saved in other folders, page 11, to know how to use them). Each one of three drawings is saved in different AutoCAD version: *Examples2000.dwg* for AutoCAD 2000, 2000i, 2002, *Examples2004.dwg* for AutoCAD 2004, 2005, 2006 and *Examples2007.dwg* for AutoCAD 2007, 2008 and 2009.

Use of the program

Installation

We tested this software using AutoCAD 2000, AutoCAD 2000i, AutoCAD 2002, AutoCAD 2004, AutoCAD 2005, AutoCAD 2006, AutoCAD 2007, but it is **not supported by LT versions**.

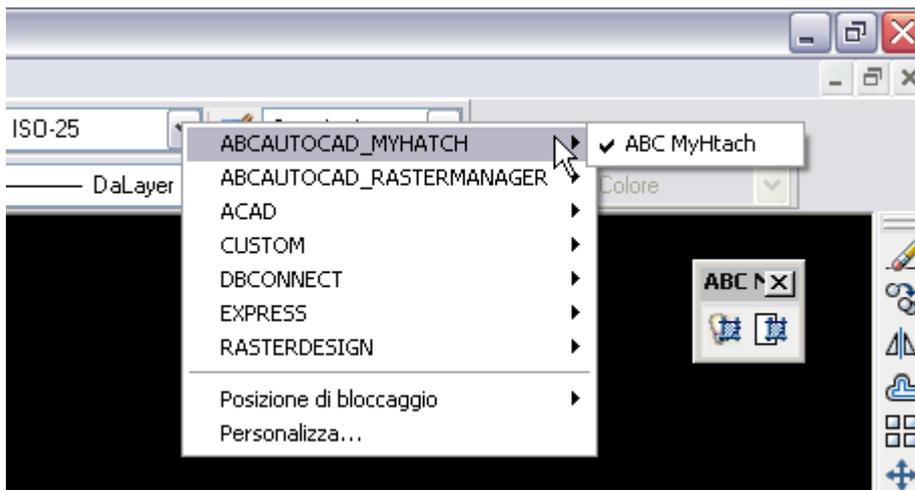
To install the program, make sure that AutoCAD is closed and double click the Install icon. Choose the folder where you want to install the program and go forward.

The Setup program will start a temporary AutoCAD session for install. Let this AutoCAD session close alone, automatically, and at the end the program is installed.

To uninstall the program just delete the folder where you have decided to install it.

Toolbar and Actions window

The creation of the hatches is realized through the window *Actions*, that you can show with the button with the hatch and the bulb, in the toolbar ABC MyHatch of the menu group ABCAutoCAD_MyHatch. The second button of the toolbar is used for composing more .pat files of single hatches in a library (see Hatch libraries, page 11). To activate the toolbar, if it is not already visualized, right click on a free zone of the toolbars area in AutoCAD interface, as shown in the next figure.



Make sure you have enabled the *Model* tab (in the lower left area of AutoCAD screen) and not a print layout. With a click on the button with the light bulb and the hatch, the Actions window appears as shown below. Maybe you are proposed to automatically adjust the zoom, better answer Yes.

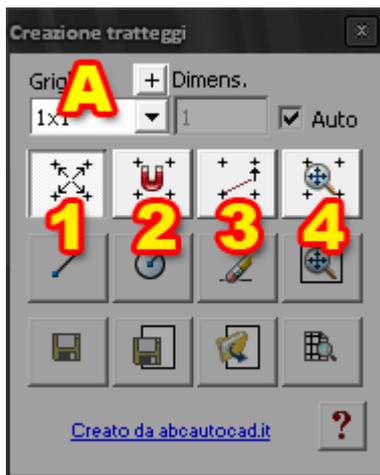


How to start

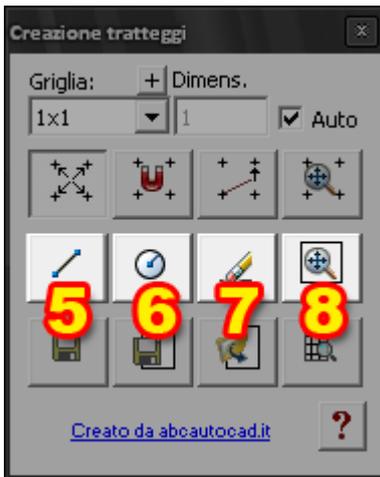
Refer to the following figure.

First of all use **A** list box to choose the size of the grid. The little button with plus (+) icon lets you add other sizes for the grid.

If you want to show the grid, activate the button **1**. To constrain the mouse movement to the *SNAP* grid of AutoCAD use button **2**.



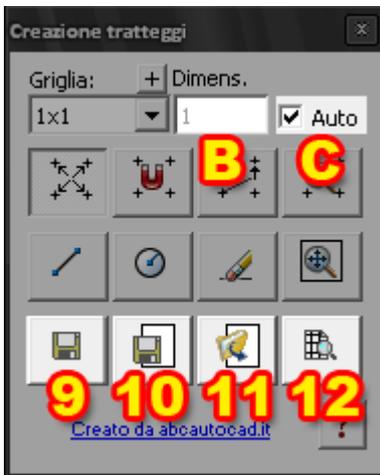
To set up the zoom for seeing at best the grid you can press the button **4**. If you draw without worrying about making the vertices matching with the grid, the button **3** lets you automatically adapt the already drawn objects, opportunely moving their vertices on the nearest points of the grid.



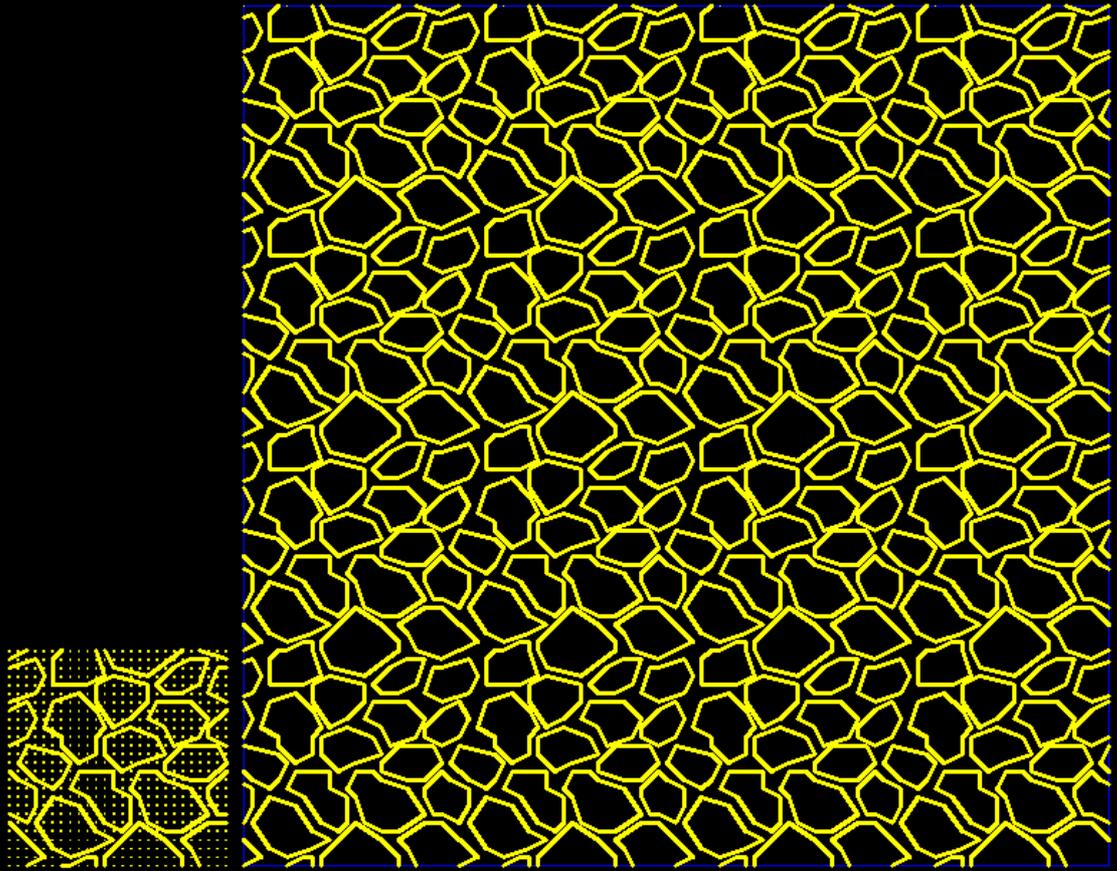
The button **5** lets you create lines (in any case, normal AutoCAD lines can also be used, but not polylines, points and rectangles) and the button **6** facilitates the creation of circles. Since as already explained true circles cannot be included in AutoCAD hatches, the button for circles creates lines that approximate them at best. To quickly erase all the lines, you can use the button **7**. The button **8** simply zooms to the area containing the preview (see ahead). For all these operations it is available the normal *Undo* command of AutoCAD.

Check your new hatch

Before showing the preview of the result with the button **12**, you can assign the final dimension of the pattern to be repeated through the text box **B**. If the option **C** is activated, the dimensions of the pattern are identical to those of your drawing.

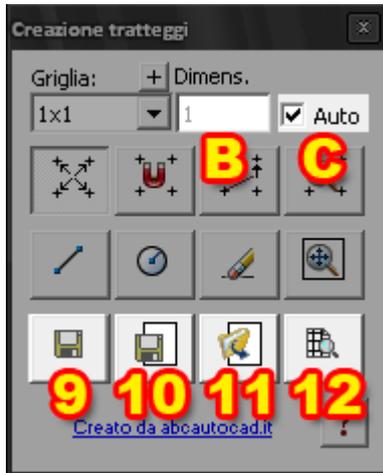


Pressing the button **12** the preview appears in a square on the right of the grid (next figure).

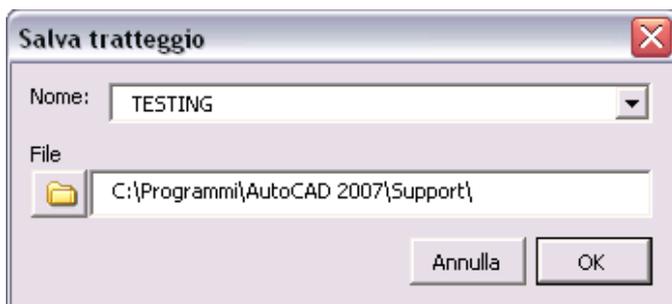


Save the hatch

To save the hatch to the disk, in a .pat file, use button **9**.



The files are created by default in the subfolder named *Support*, in the installation folder of AutoCAD, so that are immediately available for using. The hatch name is typed by you in the dialogue box, and cannot contain spaces. The list box in this dialog lets you choose an existing file, in the case you want to overwrite it.



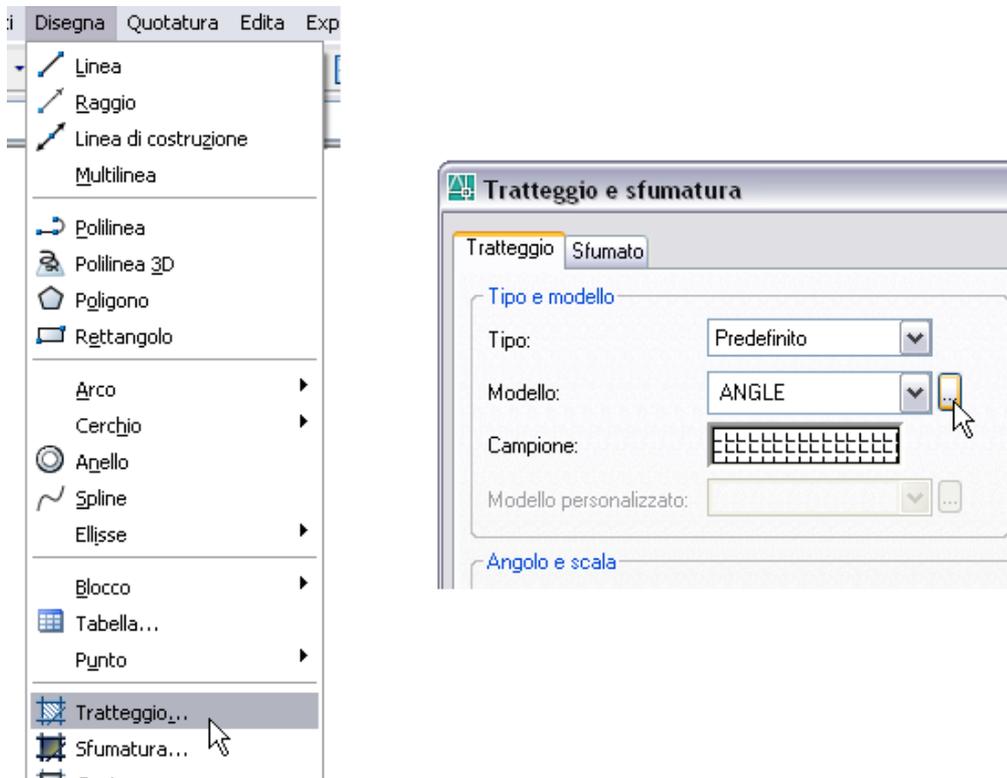
After that the file is created, it is not possible to re-obtain from it the drawing of the pattern. Therefore exists the button **10**. This button behaves similarly to the button **9**, but it also creates a block in the current drawing, with all the necessary information to rebuild the pattern. So you can always use this button and finally decide if you want to save your dwg, containing all the definitions created in the current session. The button **11** lets you reload a definition of pattern, previously saved in the drawing through the button **10**, simply choosing its name in a list box



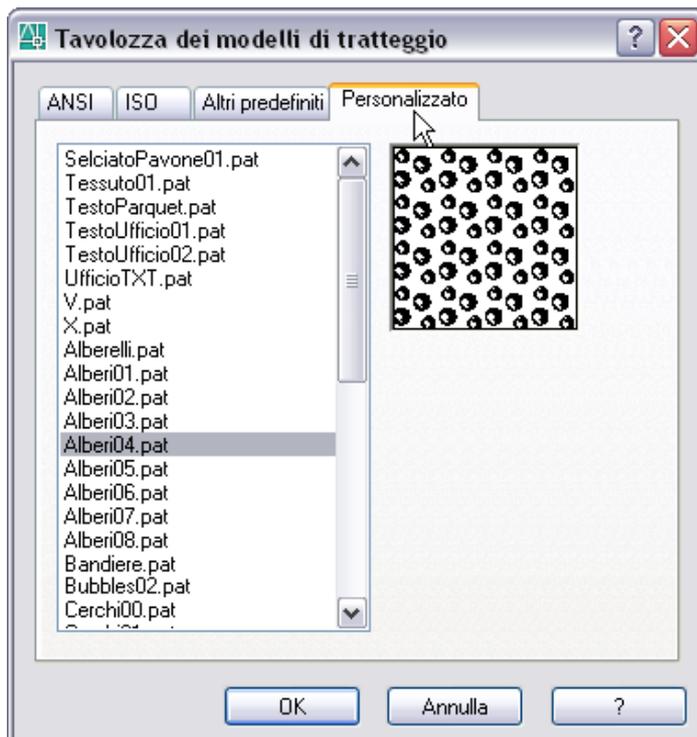
Obviously when you finish to work over several hatches in a drawing, only if you save that drawing with the normal AutoCAD *Save* command you will be able in future to reopen it and edit again the patterns that you have stored in the drawing.

How to use hatches in the Support folder

To use the hatches contained in the .PAT files, the normal AutoCAD techniques are used. If you have saved your sketching in the *Support* folder (as default when you save) you can use the hatch through the AutoCAD menu *Draw > Hatch*, or through the usual button of the *Draw* toolbar.

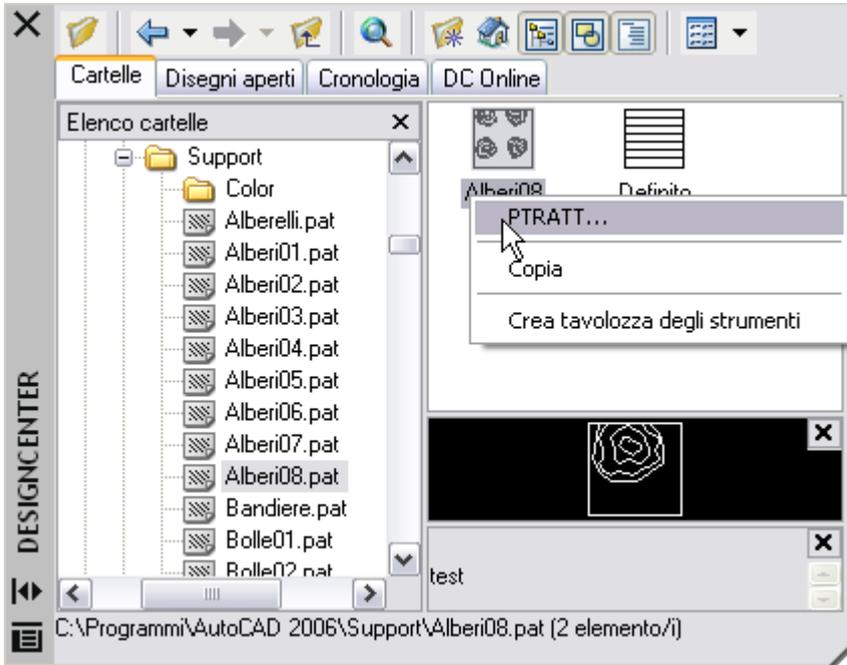


You have access to the list of custom hatches that you have previously saved on disk by opening the *Hatch and gradient* window and clicking in the button with an ellipsis, next to the *Pattern* list, and then, in the next window, by enabling *Custom* tab.



How to use hatches saved in other folders

AutoCAD allows you to use definition .PAT files in any folder they are, using the *Design Center*. To enable *Design Center* access the menu *Tools > Design Center* (in AutoCAD 2007 and later releases the menu is *Tools > Palettes > DesignCenter*).

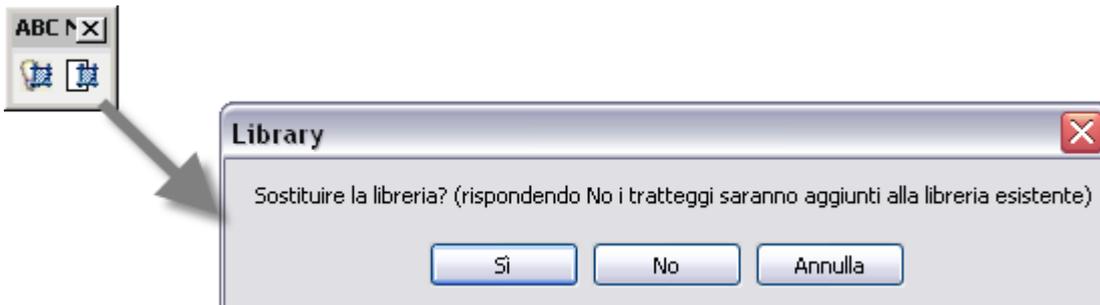


Choose the *Folders* tab (on top of Design center – older releases named it *Desktop*, and it was a button) and navigate in *my computer* or *network* to the folder that contains the file of your hatch. With a double-click over the .PAT file, the right pane of the *Design Center* displays the thumbnail of the hatch, which you can drag in the drawing or on which you can right click to access, via the shortcut menu *BHATCH*, the *Hatch and gradient* window.

Hatch libraries

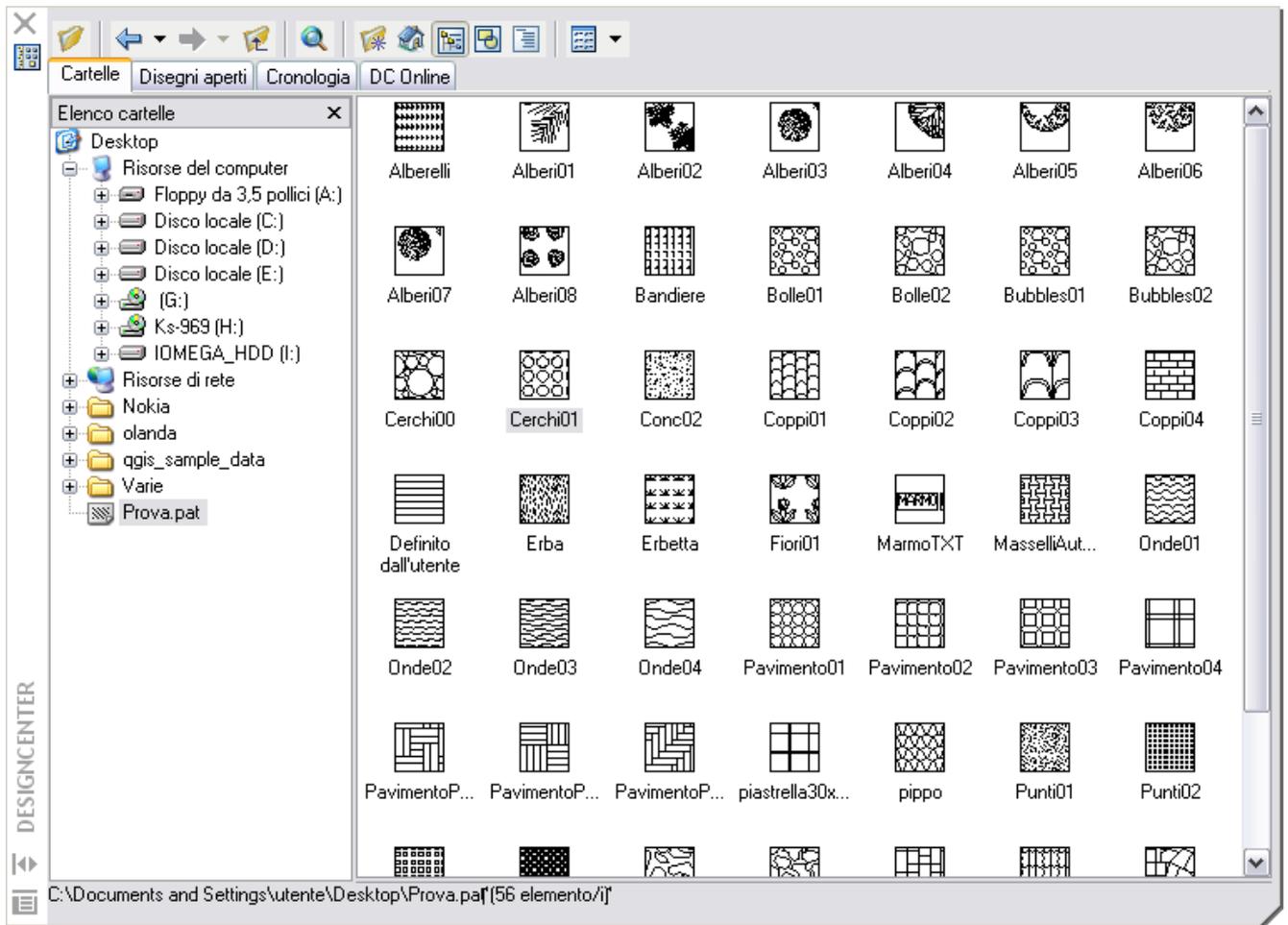
With *Design Center*, you can also access .PAT files containing multiple hatches. Each file normally contains only one hatch, named in the same way of the file. If you concatenate multiple files in a single file you get a library of the same type of the standard AutoCAD one (the one you use for standard hatches, is defined in a file named *ACAD.PAT* or *ACADISO.PAT*, contained in a support folder in the user's profile).

MyHatch allows you to automate the creation of a library or add to an existing library individual .PAT files. For this purpose use the second button of the toolbar and tell if you want to add the hatches to the library (answer no) or replace and overwrite it (answer yes).



After you have selected the files to merge, you are prompted to indicate the destination file in which to save the library.

At the end you can browse with *Design Center* and click the library created to use the hatches.



Free examples in bundle

In the subfolder *Examples* of the folder of installation you find several examples of already usable hatches. For the complete list, you can open the file *TilesList.pdf*