

ABOUT THE ALPHACAM IN WOODWORK ENGINEERING

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Abstract

ALPHACAM system is a powerful tool for increasing productivity in the manufacture of sculpted furniture.

Key words: ALPHACAM, antique style furniture, CNC

INTRODUCTION

ALPHACAM is a modern manufacturing IT process that reduces labor and improves the quality of wood products. By applying ALPHACAM furniture manufacturing are obtained:

- eliminate physical prototype;
- reducing the cost of execution;
- high quality of the product;

MATERIAL AND METHOD

The method consists in furniture design in AutoCAD in the first stage (Imag.1.si2.), then development programs CNC tool path setting. It uses AlphaCor modules, using basic functions: line, circle, arc, polyline. Depending on the processing capacity are obtained parts manufacturing work orders. It uses material libraries and tools and editing functions.



Image 1. Design in AutoCAD

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ar > mobilier Ungaria > placi CNC
New folder
File Edit Format View Help
File Edit Format View Help
GO Z50
N400

N450
G0 X-232 Y-19
G77 N45 N46
G0X-209 Y-35
G77 N45 N46
G0 X-232 Y-51
G77 N45 N46
G0 X-209 Y-105
G77 N45 N46
G0 X-209 Y-137
G77 N45 N46
G0X-209 Y-233
G77 N45 N46
G0 X-209 Y-329
G77 N45 N46
G0 X-209 Y-361
G77 N45 N46
G0 X-192 Y-416
G77 N45 N46
G0 X-209 Y-421
G77 N45 N46
G0 X-197 Y-443
G77 N45 N46
N3

G0 X-232 Y-19
G77 N45 N46
G0 X-209 Y-35
G77 N45 N46
G0 X-232 Y-51
G77 N45 N46
G0 X-209 Y-105
G77 N45 N46
G0 X-209 Y-137
G77 N45 N46
G0 X-209 Y-233
G77 N45 N46
G0 X-209 Y-329
G77 N45 N46
G0 X-209 Y-361
G77 N45 N46
G0 X-192 Y-416
G77 N45 N46
G0 X-209 Y-421
G77 N45 N46
G0 X-197 Y-443
G77 N45 N46
N3

G0 X-232 Y-19
G77 N45 N46
G0 X-209 Y-35
G77 N45 N46
G0 X-232 Y-51
G77 N45 N46
G0 X-209 Y-105
G77 N45 N46
G0 X-209 Y-137
G77 N45 N46
G0 X-209 Y-233
G77 N45 N46
G0 X-209 Y-329
G77 N45 N46
G0 X-209 Y-361
G77 N45 N46
G0 X-192 Y-416
G77 N45 N46
G0 X-209 Y-421
G77 N45 N46
G0 X-197 Y-443
G77 N45 N46
N350

N600
N700
GOX-1035Y50

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Image 3. Num 750 CNC program structure

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File Edit Format View Help
File Edit Format View Help
G1 X516 Y-314 Z-3
G1 X634 Y-185 Z-3
G1 X516 Y-56 Z-3
G1 X268 Y-314 Z-3
G1 Y-56 Z-3
Z50

G1 X-92 Y-56 Z-3
G1 X-177 Y-56 Z-3
G1 X-135 Y-98 Z-3
G1 X-92 Y-56 Z-3
Z50

G1 X-349 Y-56 Z-3
G1 X-434 Y-56 Z-3
G1 X-391 Y-98 Z-3
G1 X-349 Y-56 Z-3
Z50

G1 X-590 Y-56 Z-3
G1 X-657 Y-56 Z-3
G1 X-657 Y-128 Z-3
G1 X-590 Y-56 Z-3
Z50

G1 X-657 Y-247 Z-3
G1 X-657 Y-314 Z-3
G1 X-590 Y-314 Z-3
G1 X-657 Y-247 Z-3
Z50

G1 X-434 Y-314 Z-3
G1 X-349 Y-314 Z-3
G1 X-392 Y-56 Z-3
G1 X-434 Y-314 Z-3
Z50

G1 X-177 Y-314 Z-3
G1 X-92 Y-314 Z-3
G1 X-135 Y-271 Z-3

```

Image 4. A part of the CNC partition

We present an example of use in the manufacture of shell carved ALPHACAM in image 5 a. and image 6 where is the path tool in AutoCAD,

and in image 4 we have a program fragment CNC milling a final product in Figure 5 b .

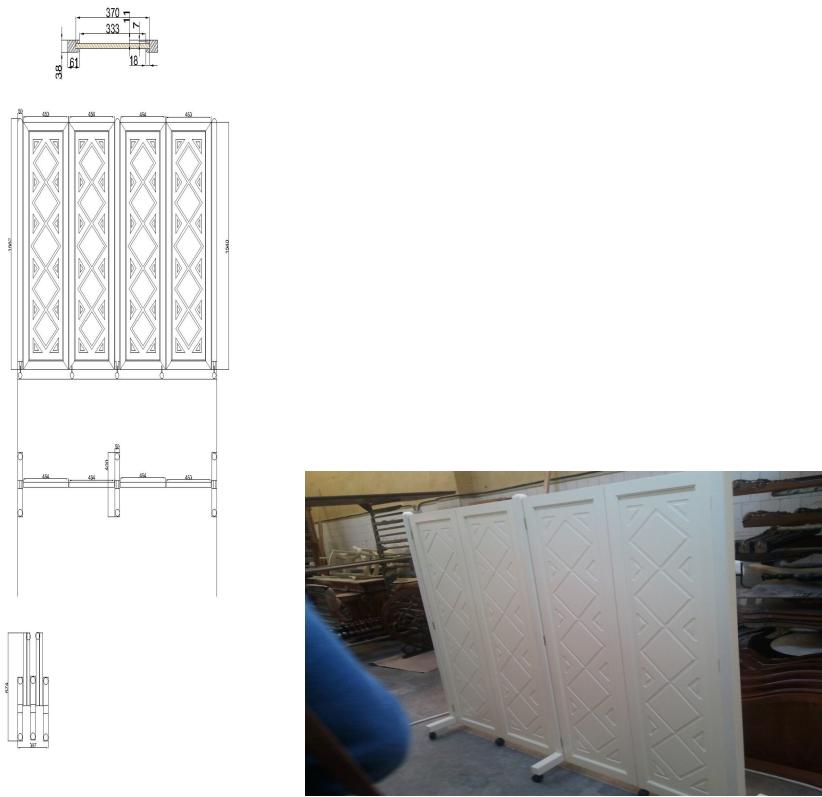


Image 5. a. Orthogonal view in section of the firewall; b. View finished product

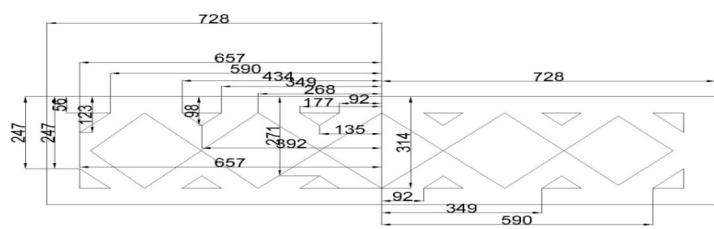


Image 6. Route mapped for milling

RESULTS AND DISCUSSIONS

By using software AutoCAD drawings can easily design and modify. CNC Programming inserting AutoCAD drawings into machine code language is instantaneous.

You can use libraries of tools, materials, drawings repere. Pentru first integration of design and manufacturing is done in CAD-CAM product. This allows the use of CNC.

CONCLUSIONS

ALPHACAM system allows the integration of design and manufacturing furniture a whole. We obtain high quality furniture and increase productivity.

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