Planing And Generating Milling Tool Paths Of Pockets

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ABSTRACT

The main purpose of this research is to understand how the tool path of the pocket constructed by line, circle, arc, spline, and island produce and make the product. Besides, to apply the modeling manufacture industry and fulfill the need of computer aided manufacture development. The tool path of the pocket is from the offset of profile outline. This research will use the DFX file to transfer the graph on AutoCAD, the tool outline graph, and obey the offset rule of the tool path to setup the script file used in C language to clear the DFX data file without the situation of overcutting and uncutting. And then, produce the offset outline which the tool path needs and choose the zigzag to produce the applied tool path. The offset rule of this research applies the corrected Modified Pair Wise Intersection to produce the tool path of cutting outline by single line offset, referenced by interference indices at the same time. But because it is not easy to figure out the interference indices when the interference indices deal with complicated graphs, so I used the interference indices to cancel the overcutting loop cooperated by the vector loop. In the part of the connection of the profile line, I used the process of inserting the arc to connect them in the part of the un-continuous lines, and crop the extra lines to complete the model of offset outline at the intersection of the lines, but now it only leaves the phenomenon of narrow long and grouging over cutting, so I used the interference indices to make an over cutting test and resolve the phenomena of over cutting to complete the two dimensional offset outline. At the last step, I took the offset outline as the foundation to produce the zigzag tool path, and according to this, to produce the NC code, and then complete the process of the real production with the Machine Center.

Keywords : Spline ; Island ; Pocket ; Overcutting ; Undercutting ; Script File ; Modified Pairwise Intersection ; Interference Indices

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