

and the feeding during the compression process.

4) The effect of the other parameters

The compression distance and compression speed have a little effect on the warpage. It can be seen from the Fig.5, the best compression distance is 0.8mm which is about 2.5 times of the thickness of the products, the change of the compression distance increase the warpage. For compression speed, there is no obvious effect pattern and the effect is not obvious. It is mainly because that the thickness of the products is very small and the compression distance is very small too. From Fig.5, the best compression speed is 280mm/s.

V. CONCLUSIONS

The conclusion of this paper is given as follows:

(1) The main factor that affects the warpage of the products during the injection compression process is the melt temperature, the effect order of the parameters from simulation and experiment is melt temperature, injection speed, mold temperature, compression distance, and compression speed.

(2) The best set of process parameter is A4B1 C4D3E2 with minimum warpage.

(3) The material firstly filled the cavity, and then the micro structures.

(4) In actual production, the melt temperature and the mold temperature should be increased in the allow range to get good quality for thin wall products.

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