

## 불완전한 이차원 다양체 모델에서의 공구경로 생성을 위한 효과적인 모서리와 꼭지점 오프셋

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### The effective edge and vertex offset method in incomplete 2-manifold model for tool-path generation

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**Key Words :** edge offset, vertex offset, tool-path

**Abstract :** When geometric data is transferred from one system to another system and tessellated for tool-path generation, the transferred model is commonly represented as an incomplete 2-manifold model which does not have any topological data between surfaces. By the way, there are some problems in generating tool-path with an incomplete 2-manifold model. One of them is to find the relation between surfaces and to offset non-overlapped edges and vertices of those surfaces. Therefore, this paper presents the efficient edge and vertex offset method using collision determination, relation of sets and surface mapping.

## 아이어닝에 있어 표면영향을 고려한 마찰처리 수식모델 개발

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### Development of Numerical Treatment of Friction Model in Surface Effect for the Ironing

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**Key Words:** Ironing (판재성형), Surface Roughness(표면 거칠기), Tribology (윤활)

**Abstract :** To carry out perfectly the forming analysis of the ironing products, it is necessary that the friction boundary condition between dies and blanks should be established for the accurate numerical friction models. The numerical friction models adapted in the conventional plate forming software, however, is different from the actual ones. In this study, accurate analysis of the ironing for surface roughness should be subjected. Especially, the existing software for forming can be used only in the limited range for the case of high speed forming work. Therefore, the numerical friction model which describes the friction boundary condition is developed in order to improve the accuracy of the plate forming analysis and to expand the applying areas of the results.