

ABSTRACT

[Abstract]

[Problem]

While a configuration is equivalent to a configuration where a cutting edge portion of a tool includes a core, cutting ability is provided to a part near a center of a tool end surface to secure an ability of handling a thrust process and a helical process that allow a cutting at the center part.

[Solution]

A cutting edge portion 1 includes gashes 8 and 9 between cutting edges 1A and 1A adjacent in a rotation direction. Center cut edges 10a to 10f are formed at parts of end cutting edges 2a to 2f constituting the cutting edges 1A close to a rotation axis O so as to face the rotation axis O. Center grooves 10A to 10F are formed on rear sides of the center cut edges 10a to 10f and the end cutting edges 2a to 2f in the rotation direction continuous with a radial direction. The center grooves 10A to 10F are continuous with positions where end cutting edge second surfaces 4a to 4f face the rotation axis O. Alternatively, the center grooves 10A to 10F are continuous with positions where the end cutting edge second surfaces 4a to 4f approach the rotation axis O. The end cutting edge second surfaces 4a to 4f are laid between the center cut edges 10a to 10f and the end cutting edges 2a to 2f. The center grooves 10A to 10F are formed between the end cutting edge second surfaces 4a to 4f and the center cut edges 10a to 10f positioned on a rear side of the end cutting edge second surfaces 4a to 4f in the rotation direction. The center grooves 10A to 10F pass on the rotation axis O. The center grooves 10A to 10F double as rake faces of the respective center cut edges 10a to 10f. The center grooves 10A to 10F are continuous with the gashes 8.

[Selected Drawing] Fig. 1