

ABSTRACT

A chip cutting tool for rotary machining operations having a longitudinal axis of rotation and comprising a cutting insert with either one or at least two indexable cutting edges, a tool holder having an insert retaining pocket and clamping means for securing the insert in the pocket so that the cutting edge or one of the cutting edges and its associated side surface is indexed into an operative cutting position with its base and at least portions of remaining side surfaces abutting corresponding surfaces of the pocket. Each of the cutting edges when in its operative position comprising leading and trailing cutting edge portions. The trailing cutting edge portion is substantially co-directional with the longitudinal axis, remote therefrom as compared with the leading cutting edge portion and located above a reference plane parallel to a plan view of the tool and passing through the longitudinal axis. A relief flank surface associated with the trailing cutting edge portion is directed at an internal acute angle to the reference plane. In the insert having one cutting edge the abutting portion of at least one of the remaining side surfaces of the insert is directed at another internal acute angle to the reference plane. The remaining side surfaces of the insert and the abutting side walls of the pocket respectively, converge towards each other in a direction away from the operative cutting edge. At least one of the converging side walls of the pocket sloping towards the base wall of the pocket at an angle substantially equal to either the first mentioned angle or the second mentioned angle so as to be retainably abutted by respectively either the relief flank surface of an inoperative cutting edge, with the insert having at least two cutting edges, or by the abutting portion of the side wall, with the cutting insert having one cutting edge.

