

Title (en)  
METHOD FOR GRINDING A POLYGON CONE ON AN NC GRINDING MACHINE

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**EP 0335255 B1 19930915 (DE)**

Application  
**EP 89105211 A 19890323**

Priority  
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Abstract (en)  
[origin: EP0335255A2] The method serves to grind a cone (14a) whose radial cross-sectional area has the configuration of an n-cornered polygon profile with predetermined eccentricity and a predetermined arithmetic mean  $D_m$  of the diameters of the circumscribed circle and the inscribed circle of the polygon profile. A grinding wheel (40a) which is rotatable about a first axis (42a) acts along a common generating line (41a) on a [lacuna] about a second axis (43a) [lacuna] intersect at an acute angle ( $\lambda$ ). The grinding wheel (40a) performs an oscillating movement during which the generating line (41a), with the n-fold frequency of the rotary movement of the workpiece blank (46a) and with an amplitude corresponding to twice the eccentricity, is displaced in parallel in the plane defined by the axes (42a, 43a). So that a polygon cone (14a) can be ground with a grinding wheel which can be produced industrially and has a straight generating line (41a), the radial cross-sectional areas of which polygon cone (14a) are brought as close as possible to the ideal constant-diameter profile (from the criteria of the science of materials) according to DIN 32 711, the amplitude is set with an eccentricity  $e'$  which obeys the relationship  $e' = \frac{D_m}{2 \cdot \sin(\lambda)}$  where  $D_m$  is the arithmetic mean of the diameters of the polygon profile at the pointed end of the cone (14a), and  $\lambda$  is a predetermined angle of preferably 14 DEG .

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