

عنوان مقاله:

High Speed Turning of H-13 Tool Steel using Ceramics and PCBN

محل انتشار:

دومین کنفرانس بین المللی و هشتمین کنفرانس ملی مهندسی ساخت و تولید (سال: 1386)

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خلاصه مقاله:

H-13 is the toughest tool steel used in machined die casting and forging dies. Due to its extreme hardness and poor thermal conductivity high speed cutting results in high temperature and stresses. This gives rise to surface damage of the workpiece and accelerated tool wear. This study evaluates the performance of different tools including ceramics and PCBN using practical finite element simulations and high speed orthogonal cutting tests. The machinability of H-13 was evaluated by tool wear, surface roughness and cutting force measurements. From the 2D finite element model for orthogonal cutting, stresses and temperature distributions were predicted and compared for the different tool materials.

کلمات کلیدی:

(H-13, High speed turning, Finite element (FE

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