

Hybrid Lubri-Coolants as an Alternatives to Mineral Based Emulsion in Machining Aerospace Alloy Ti-6Al-4V

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Abstract : Ti-6Al-4V has poor thermal conductivity (6.7W/mK) accumulates shear and friction heat at the tool-chip interface zone. To dissipate the heat generation and friction effect, cryogenic cooling, Minimum quantity lubrication (MQL), nanofluids, hybrid cryogenic-MQL, solid lubricants, etc are applied frequently to underscore their significant effect on improving the machinability of Ti-6Al-4V. Nowadays, hybrid lubri-cooling is getting attention from researchers to explore their effect on machining Ti-6Al-4V.

Keywords : hybrid lubri-cooling, tool wear, surface roughness, minimum quantity lubrication

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