Abstract

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Design and operation of abrasive jet machining of polydimethylsiloxane or silicone elastomer with abrasive particles of aluminum oxide

Author: Pramod Kumar

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Abstract:

Abrasive jet machining (AJM) is a machining process that uses high-velocity gas to push abrasive particles and remove unwanted material from a workpiece. It is also known as abrasive micro-blasting or pencil blasting. The uses of this technology range from refining rough surfaces, such as deburring and rough finishing, to machining ceramics and other electronic devices. It can also be used for micro-machining procedures. AJM offers numerous benefits compared to alternative non-traditional cutting techniques, such as extensive machining adaptability and reduced substrate stress. This work explores a variety of studies carried out by researchers to assess the influence of AJM process parameters, such as the abrasive particle type, on the results of machining. Several studies were conducted to measure the impact of the abrasive jet machine.

Keywords: Abrasive jet machining, Elastomer, Machinability

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