STUDENT'S DECLARATION

I, VivekAameria, hereby certify that the work which is being presented in the Major project entitled **"ABRASIVE JET MACHINING ON TEMPERED GLASS USING SILICON CARBIDE ABRASIVES"**, is submitted, in the partial fulfilment of the requirement for the award of the degree of "MASTERS OF TECHNOLOGY" with specialization in "PRODUCTION ENGINEERING" at Delhi Technological University is an authentic record of my own work carried under the supervision of **Dr. Vipin**. I have not submitted the matter embodied in this major project for the award of any other degree or diploma also it has not been directly copied from any source without giving its proper reference.

VivekAameria
Roll N. 2K11/PIE/20

CERTIFICATE BY SUPERVISOR

The above said work was done under my supervision and guidance. The work embodied in this project has not been submitted for the award of any other degree/diploma to the best of my knowledge.

Dr. Vipin,
Professor
Mechanical Engineering Department
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ABSTRACT:

The abrasive jet machining (AJM) is a non-conventional machining process in which a jet of compressed air, nitrogen or carbon dioxide along with the abrasive particles is directed on the workpiece with the help of nozzle for machining. The high velocity abrasive particles impinge on the workpiece to remove the material by erosion. Abrasive jet machining is generally good for cutting hard or brittle materials and is usually performed to furnish machining or finishing operation such as cutting, deburring, etching, etc.

This project deals with the fabrication of the Abrasive Jet Machine and machining on tempered glass, calculating the material removal rate varying the performance parameters. While fabrication the mixing chamber is placed vertical and not horizontal because when placing the mixing chamber horizontal, it will not allow the abrasive particles to mixes properly and some amount of abrasive will always settle down at the bottom of the horizontal mixing chamber. The effect of different parameters on the material removal rate has been investigated using Taguchi Orthogonal Array L9 and analysed using ANNOVA. The different problem faced while machining on tempered glass are also discussed.

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