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(57) Abstract :
Generally iliere are various amazing materials in the real world which are given by nature to alter the conventional materials in order to reduce the weight, cost and facility to manufacture the product. Hand layup method is used to fabricate the composite specimen which is less economic and easy to fabricate. Materials used in this research work are natural and synthetic fibers. Various mechanical tests has been carried out to determine the mechanical characteristics which includes tensile test, flcxural test, impact test and double shear test, As per ASTM standards, various mechanical tests have been conducted for different samples of different categories. The machining characteristics have been done to determine the optimal parameters using abrasive water jet machining. The input parameters such as pressure, traverse speed, standoff distance has been taken to lltul the optimum response. Here, L27 orthogonal array is used in work piece and optimization is done using Taguchi method and analysis of variance (ANOVA) has been carried out to record the performance.

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Abstract:

Generally iliere are various amazing materials in the real world which are given by nature to alter the conventional materials in order to reduce the weight, cost and facility manufacture the product. Hand layup method is used to fabricate the composite specimen which is less economic and easy to fabricate. Materials used in this research w natural and synthetic fibers. Various mechanical tests has been carried out to determine the mechanical characteristics which includes tensile test, flcxural test, impact tes double shear test, As per ASTM standards, various mechanical tests have been conducted for different samples of different categories. The machining characteristics have done to determine the optimal parameters using abrasive water jet machining. The input parameters such as pressure, traverse speed, standoff distance has been taken t the optimum response. Here, L27 orthogonal array is used in work piece and optimization is done using Taguchi method and analysis of variance (ANOVA) has been carrie record the performance.

Complete Specification

TECHNICAL FIELD

The invention relates lo polymer composites and more specifically to polymer composites reinforced with natural fibers particularly suitable in applications such as automotive, electronics, construction, and the like.

BACKGROUND

Composite materials have been being used for some an assortment of uses and have been created in an assortment of designs. Such materials show some remarkable properties regarding mechanical strength, warm properties and so forth With the revelation ofnano materials, research here has been remarkable and more up to dale composites arc by and large constantly created. By and large the composite materials might be produced using a blend of metals, nonmetals, plastics with the states of t completed materials might be in any mathematical structure. The fundamental type of any or all the constituents of a composite might be in particles, bristles, strands, s and so on

Fiber fortified polymer composites have gotten inescapable consideration in the previous forty years as a result of their high explicit strength and modulus. Generally, composites utilizing high strength filaments, for example, graphite, aramid and glass arc utilized in wide scope of uses from aviation structure to car parts and from builc materials to outdoor supplies. Be that as it may, this kind of composites was imported from abroad and need significant expense to deliver it. This circumstance has prompted the advancement of elective materials. As of late, a lot of interest has been appeared in the capability of characteristic strands to supplant glass fiber in composites. This is the elective way which is more prudent and can be financially savvy than utilizing manufactured strands. Despite the fact that these filaments may nc be as solid as carbon and aramid, their principle favorable circumstances are minimal effort and biodegradability. A few endeavors have been made as of late to consolic

View Application Status