



International Journal on Recent Researches In Science, Engineering & Technology

A Journal Established in early 2000 as National journal and upgraded to International journal in 2013 and is in existence for the last 10 years. It is run by Retired Professors from NIT, Trichy.

It is an absolutely free (No processing charges, No publishing charges etc) Journal Indexed in DIIF and SJIF.

Research Paper

Available online at: www.jrrset.com

**Chief Editors 1 : Dr. M.Narayana Rao, Ph.D., Rtd. Professor, NIT,
Trichy.**

(Engg.&Technology division)

2 : Dr. N.Sandyarani, Ph.D., Professor,

Chennai based Engg.College, (Science division)

ISSN (Print) : 2347-6729

ISSN (Online) : 2348-3105

**Volume 2, Issue 10,
October 2014**

DIIF IF :1.46

SJIF IF: 1.329

Determination of Influence of Thrust Force on the Drilling Parameters of RCC Composite Material

K.V.Krishna Sastry, V.Seshagiri Rao, M.S.Kumar, A.Velayudham and K.Palanikumar

Abstract -The Technological development in the material sector has caused interest among engineering and scientific community to create new materials with different characteristics and required properties. One such material, Reinforced Carbon-Carbon (RCC) composite material is gaining an important place among the materials of modern industrial period. In these composite materials, the Carbon or Graphite fibres are reinforced into the Carbon matrix. These composites have taken prominent place among various materials nowadays due to their unique features and properties. This composite material is used mostly in the manufacturing of advanced structures like rockets, space shuttles, missiles, aircrafts, main battlefield tanks, Bio medical devices, etc. These composites are very expensive in nature and the addition of machining cost of these materials makes the products more costly. Hence the machining parameters are carefully selected so that no drilling damage is caused during machining. Thrust Force control through the manipulation of control factors, such as feed rate, spindle speed and point angle of a drill bit, can provide significant economic advantage for drilling processes. This paper presents a study and analysis on the thrust force in the drilling of RCC composite material. The drilling experiments were carried out on a RCC composite plate with three different drilling tools i.e., High speed steel tool, TiN coated carbide and Solid carbide tool, by using the VMC100 computer numerically controlled drilling machine, at the workshop of Anna university campus, Chennai, India. The comparative advantages of all the three tools are also discussed in this paper.