Stream: HS/ TS/ BS/ MS (Mandatory to mention)

Subcategory: Engineering and Technology / Pharmacy/ Medicine (Mandatory to mention)

Abstract type: Original Research / Conceptual (Mandatory to mention)

Mode of presentation: Oral / Poster (Mandatory to mention)

Designation of presenting author: UG / PG / Research Scholar / Faculty (Mandatory to mention)

Add your title here and use the same settings as done for this title

Abs P[1], Xyz S[2] and Bbc A J[3] [Underline the presenting author name]

[1]Professor, Department of Nanotechnology Engineering, Abcd Medical College, Mangalore - 575001, INDIA

[2]Senior Professor, Department of Mechanical Engineering, G.E. Engineering College, Mangalore - 575001, INDIA

[3]UG Scholar, Department of Materials Engineering, SAE College, Mangalore - 575001, INDIA

Tel.: [1] +91 9453465625, [2] +91 4253623543; [3] +91 7364758294

E-mail IDs: [1] xyz@abc.ac.in; [2] workshop@abc.ac.in; [3]jana.a.j@gmail.com

Abstract

[300 words] Friction Stir Welding (FSW) is an innovative type of solid state welding technique invented & developed by TWI, The Welding Institute in 1991, which utilizes a rotating tool to produce frictional heat & thereby creating plastic deformation at the location of welding. Most commonly, FSW is used to join high-strength alloys and even composites which cannot be welded using the conventional welding techniques. Friction Stir Welding produces high quality welds & normally involves the use of a spinning non – consumable tool to generate frictional heat in the work piece. Tool design, tool material & tool geometry plays an important role in FSW when they are employed for joining high melting point and high strength alloys. This paper describes and examines in detail the latest scenario of the role of Tool Geometry in FSW along with its tool materials, types, shapes, dimensions & mechanisms of wear in joining of various metals including steels, aluminium, titanium & their alloys.

Keywords: **Up to 5 words**, Friction Stir Welding, tool material, tool design, tool geometry