

# A REVIEW ON FRP COMPOSITES IN HYBRID JOINTS AND THEIR APPLICATIONS

**<sup>1</sup>K.Susheela and <sup>2</sup>P.Ramesh Babu**

<sup>1</sup>Research Scholar, Department of Mechanical Engineering, Osmania University, Hyderabad, Telangana

<sup>2</sup>Professor, Department of Mechanical Engineering, Osmania University, Hyderabad, Telangana

Email: [kattulasusheela037@gmail.com](mailto:kattulasusheela037@gmail.com)<sup>1</sup> and [prbmechou@yahoo.com](mailto:prbmechou@yahoo.com)<sup>2</sup>

## ABSTRACT

To exploit the potential of lightweight construction for a more efficient element design, many Industries, especially the Automotive and Aerospace industries, increased use of fiber-reinforced plastics, aluminum, cast materials, high strength steels, and metal foams. the hybrid fiber-reinforced polymer (FRP) composites preparation and characterization the effect of joint design parameters described briefly for hybrid joints based on adhesive used. The most frequently used hybrid joining techniques are based on adhesive bonding in combination with another structural joining process such as rivets, bolts, etc. The main reason for these combinations is that when the adhesive is applied, it will have only a limited static strength until fully cured. Mechanical fastening provides additional strength until curing is complete. Intensive work on the development of new joining methods and the optimization of existing mechanical joining technologies is currently underway. The joining becomes an imperative and necessary domain to join individually processed composite parts into a usable assembly .therefore it provides the most opportunities for innovation. In this paperwork on adhesively bonded and hybrid composites are reviewed and discussed several parameters such as joint parameters, material properties, geometric parameters are discussed. a literature survey was conducted on the latest technologies in the area of hybrid joining techniques, it is imperative to use the information on multiple adhesives and their behavior to improved utility in various industrial applications and identification of some for further research.

## **Keywords:**

*Hybrid joints, adhesive bonding, FRP Composites.*