

Carbon for composite

Abstract:

Carbon material is one of the important pillars of nanotechnology. Different forms of carbon present unique electrical, mechanical, adsorption, and thermal properties with high aspect ratio, exceptional stiffness, excellent strength, and low-density which can be exploited in manufacturing revolutionary smart composite materials. The demand for lighter, stronger and smart polymer composite material in various applications is increasing every day. Among all the possibilities in exploiting the properties of different form, source and structure of carbon in composites in research and development were focused. Reinforced epoxy resin as well as cement composite with carbon based materials were used. The main aim was to study the mechanical properties such as stress, strain, ultimate tensile strength, yield point, modulus and fracture toughness, and Young's modulus. The mechanical strength of epoxy composite is increased with 1 and 3 wt. % of filler. Cement composite shows the variation in mechanical property with lower wt. % (~ 0.08 %) carbon filler.

Biography

Dr. Pravin Jagdale (Ph. D. chemistry) is a research scientist in Carbon group, Dept. of Applied Sci. & Tech. (DISAT), Politecnico di Torino, Turin, Italy. He did his Masters in Organic Chemistry from Mumbai University (2000) and Ph.D. in chemistry (2010) from Solapur University, India. The title of his thesis was 'Conversion of waste polyethylene plastic to Carbon nanomaterial, wax, and gas by chemical vapour deposition'. He has 10 years of Industrial experience. Dr. Pravin is working in carbon materials for material Science, Environment, and Energy sectors from last 7 years. He published 8 books chapters, 1 book and 32 research articles internationally. He is involved in various academic and industrial collaborations more than ten countries all over the world. Dr Pravin involves in European, European-Mexican-Canadian projects. Currently he involves in Carbon Fibres, Carbon and Bismuth nanomaterials and their application in various filed. He is on the advisory board of polymer, Carbon nanomaterial and Environment industries in India. He is a life member of Indian carbon society. His area of interest is to use carbon from waste source for industrial oriented applications.