

Article Abstract

Title:	Production of nano structured silicon carbide by high energy ball milling
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Abstract:	In this paper, an attempt has been made to modify the micro sized Silicon carbide powder into nano structured Silicon carbide powder using High Energy Ball Mill. Ball milling was carried out for the total duration of 50 hours. The sample was taken out after every 5 hours of milling and it was characterized for its crystallite size, lattice strain, and percentage of crystallinity by using X-Ray Diffractometer. It was found that for the 50 hrs, milling the crystallite size was reduced from 120 nm to 26 nm and the percentage of crystallinity got reduced from 74% to 49%. The size, shape and texture of the fresh as well as nano structured Silicon carbide powder were studied using Scanning Electron Microscopy (SEM). The fresh Silicon carbide powder particles were mostly angular in shape. The shape of the 50h milled particles is irregular and the surface morphology is rough.
Keywords:	Nano powders, High Energy Ball Milling, X-ray and SEM analysis.