EFFECT OF MINIATURIZATION FOR THE APPARENT DENSITY MEASUREMENTS OF IRON POWDERS

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Abstract: *As a result of recent technological developments required material quantities used during production and characterization related research and development studies are decreasing. In addition to that, cost of many nanosized powders and fibers are quite high and these kind of high surface area powders easily contaminate the surfaces they contact. Apparent density is very important physical property for many materials in powder form and plays a key role especially for their potential use of particulate materials in different areas. The apparent density value of a powder can be calculated using different standardized methods. Arnold meter is one of them and it requires to be filled a specific volume, by a free flowing test sample in powder form. In this study, standard Arnold meter kit was miniaturized to be able perform the test with lesser amount of powder to be tested. Test results are discussed using atomised Fe powders which were sieved to different particle size fractions.*

KEYWORDS: *POWDER METALLURGY, APPARENT DENSITY, FE POWDERS*