Presented at NDE2002, to predict. assure. improve. www.nde2002.org
National Seminar of ISNT, the Indian Society for Non Destructive Testing
Hotel Taj Connemara and Raja Muthiah Hall, Chennai, 05. – 07. 12. 2002

Non Destructive Testing for Grinding Wheels

L. Vedhavalli, Dr. V. E. Annamalai

M/S Carborundum Universal Ltd., P.B.2272, Tiruvottiyur, Chennai – 600 019
Email: lv@cft.cumi.co.in and vea@tvt.cumi.co.in

Abstract

Grinding wheels are multipoint cutting tools composed of selectively sized abrasive grains held together by a bonding material.. A Grinding wheel is a multilayer component consisting of 54% grain minimum and 26% bond maximum with 15- 20% porosity. Hence problems occurred while interpreting the data with few NDT techniques. The present paper deals with the limitations of few of the NDT methods and how radiation technique has been found useful.

Ultrasonic testing while used doesn't interpret the actual defect correctly since there is a differential density between the matrix and the reinforcing material. The Liquid penetrating technique misleads as it indicates the inherent designed pores of the grinding wheels as defects.

Magnetic particle testing could not be applied for grinding wheels since the wheels are not magnetic materials. The same applies for Eddy current test methods. The Radiographic method was tried using X- rays and the results were found encouraging.