NON-DESTRUCTIVE HRADNESS TESTING OF STEL MATERIALS USING X-RAY DIFFRACTION

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Inspection of machine product is very important for the quality control in metal working industry. Hardness test is useful for estimation of material strength. Many producers hope that, establish of the evaluation technique by non -destructive test. In the case of X-ray diffraction technique, the full width at half maximum (FWHM) correlate with the hardness of steels. However, the parameter of the FWHM is dependent the any factor of material.

In this study, fundamental X-ray measurement conditions for high carbon chromium bearing steels were considered. Moreover, influence of the mechanical working effected layer on X-ray parameters was discussed.

It was found that X-ray diffraction technique enable us estimate a hardness of steel materials with equal properties, surface treatment and chemical compositions. The parameter the FWHM change with wavelength of characteristic X-ray target.

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I would like to publish this paper in **ICRS** proceedings.