

## Paper #TM-03

### Pengaruh Nitridasi Ion Terhadap Kekerasan Dan Laju Korosi Pada Material Baja Poros Dan SS 304

**Mudjijana<sup>1)</sup>, Suprapto<sup>2)</sup>, Arsanto Ishadi Wibowo<sup>1)</sup>**

<sup>1)</sup> Program studi Teknik Mesin Jurusan Teknik Mesin dan Industri  
Fakultas Teknik Universitas Gadjah Mada

<sup>2)</sup> Pusat Teknologi Akselerator dan Proses Bahan Badan Tenaga Nuklir Nasional Yogyakarta  
Email : mudjijana\_tmugm@yahoo.com

#### ABSTRACT

*In this study specimens of shaft steel and SS 304 were ion nitrided at 400°C and 450°C, at 1,8-2,2 mbar and 5 hours process. The effect of ion nitriding for hardness was studied by microVickers hardness tester and the effect for corrosion rate was studied by three electrode cells. The structure was studied by SEM, EDX, and optical microscope. The result showed that ion nitriding improve surface hardness for both specimens and ion nitriding improve corrosion rate of SS 304 and decrease corrosion rate of shaft steel.*

**Keywords :** *Ion Nitriding, Hardness, Corrosion Rate, Shaft Steel, SS 304*