



DAFTAR PUSTAKA

- ASM International, 2000, *Alloy Digest Sourcebook: Stainless Steels*.
- ASM Metals HandBook, Volume 8, 2000, *Mechanical Testing and Evaluation*.
- ASTM A240, *Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications*.
- ASTM E647, *Standard Test Method for Measurement of Fatigue Crack Growth Rates*.
- ASTM E 8, *Standard Test Methods for Tension Testing of Metallic Materials*.
- Badaruddin dan Sugiyanto, 2005, Pengaruh Shot Peening terhadap Stress Corrosion Cracking Baja Karbon Rendah yang telah Dimilling dan Tempering dalam Lingkungan Air Laut. *Jurnal Ilmiah Teknik Mesin*, Volume 9, Nomor 4, ISSN 1410 – 6841.
- Benedetti, Fontanari, M., Winiarski, B., Withers, P.J., Allahkarami, M., and Hanan, J.C., 2015, Fatigue Behavior of Shot Peened Notched Specimens: Effect of The Residual Stress Field Ahead of The Notch Root, *Procedia Engineering* 109, pp. 80-88, Elsevier.
- Brojan, M., Bombac, D., Kosel, F., and Videvic, T., 2008, Shape Memory Alloys in Medicine, *Materials and Geoenvironment*, Vol. 55, No. 2, pp. 173-189.
- Buddy, D.R., Hoffman, A.S., Schoen, F.J., and Lemon, J.E.. 2004, Biomaterials Science, An Introductions to Materials in Medicine, 2nd Edition, Elsevier, California USA.
- Callister, Jr.W.D., 2009, *Materials Science and Engineering An Introduction* 8Th, John Wiley & Sons, Inc.
- Carrasco, C., Segers, L., Benevente, B., and Vergara, V., 2004, Titanium Nitride Coating on Copper Alloy Prepared by DC Reactive Magnetron Sputtering, Elsevier.
- Champaigne, J., 2001, Shot Peening Overview, Misawaka: Electronics Inc.
- Creus, J., Mazile, H., and Idrissi, H., 2000, Porosity Evaluation of Protective Coatings Onto Steel Trough Electrochemical Techniques, *Surface and Coatings Technology*.
- Dalaeia, K., Karlsson, B., and Svensson, L.E., 2010, Stability of Residual Stresses Created by Shot Peening of Pearlitic Steel and Their Influence on Fatigue Behaviour, *Procedia Engineering* 2, pp. 613–622, Elsevier.
- Davis, J.R., 2003, Handbook of Materials for Medical Devices, ASM International, pp. 55-135.
- Etienne J dan Metcalfe R.G., 2018, Stress Corrosion Cracking of Stainless Steel Refractory Anchors Prior to Service, *Journal of Failure Analysis and Prevention*, Vol. 18, pp. 8-12, Springerlink.
- Feng, Q., Jiang, C., and Xu, Z., 2014, Residual Stress Relaxation of Shot-Peened Deformation Surface Layer on Duplex Stainless steel Under Applied Loading, *JMEPEG*, pp. 408–412, Elsevier.



- Fu, Y., Wu, X.Q., Han, E.H., Ke, W., Yang, K., and Jiang, Z.H., 2009, Effects of nitrogen on the passivation of nickel-free high nitrogen and manganese stainless steels in acidic chloride solutions *Electro. Chim. Acta* 54, 4005. doi: 10.1016/j.electacta.2009.02.024
- Ge, S., Kang, X., Zhao, Y., 2011, One-year biodegradation study of UHMWPE as artificial joint materials: Variation of chemical structure and effect on friction and wear behavior.
- Gong, C., Tian, X., Li, M., Yang, S., Fu, R.K.Y., and Chu, P.K., 2009, Effect of Capacitively-Coupled Radio-Frequency Discharge on Operation Voltage in Magnetron Sputtering, *Surface & Coating Technology* 203, pp. 2767-2770, Elsevier.
- Grabke, H.J., 1996 The Role of Nitrogen in the Corrosion of Iron and Steels, *ISIJ Int.*, 36(7), p 777–786. <http://doi.org/10.2355/isijinternational.36.777>.
- Grainger, S., 1989, Engineering coating-design and application, *Abington Publishing*, Cambridge.
- Ibrahim, A.G., 2004, Pengaruh Tebal Potong Terhadap Laju Keausan Pahat Bubut HSS Yang Dilapisi Titanium Nitrida dengan Teknik Sputtering, *Tesis*, Jurusan Teknik Mesin UGM.
- Jamasri dan Mujiyono, 2001, Peningkatan Umur Fatik Paduan Al 2024-T3 dengan Kombinasi Perlakuan *Shot Peening* dan *Stretching*, *Media Teknik No.2*, Tahun XXIII, Edisi Mei 2001, No. ISSN 0216-3012.
- Jones, D.A., 1991, Principles and Prevention of Corrosion, *Mc Milman Publishing Company*, New York.
- Junior, G.S., Voorwald, J.C., Vieira, L.F.S., Cioffi, M.O.H., and Bonora, R.G., 2010, Evaluation of WC-10Ni Thermal Spray Coating with Shot Peening on The Fatigue Strength of AISI 4340 Steel, *Procedia Engineering* 2, pp. 649–656, Elsevier.
- Kang, L., Galvin, A.L., Brown, T.D., Jin, Z., Fisher, J., 2008, Quantification of the effect of cross-shear on the wear of conventional and highly cross-linked UHMWPE.
- Kim, W., Park, J.S., Cho, S.W., Kim, N.R., Ko, I.Y., and Shon, I.J., 2010, Properties and Rapid Consolidation of Binderless Titanium Nitride by Pulsed Current Activated Sintering, *Journal of Ceramic Processing Research*, Vol. 11, No.5, pp. 627-630.
- Lee, S.H., Yoon, K.H., Cheong, D.S., and Lee, J.K., 2003, Relationship Between Residual Stress and Structural Properties of AlN Films Deposited by R.F. Reactive Sputtering, *Thin Solid Films*, 435, pp. 193-198.
- Li, C.X., Bell, T., 2006, Corrosion properties of plasma nitrided AISI 410 stainless steel in 3.5% NaCl and 1% HCl Aqueous solutions, *Corr. Sci.* 48, 2036-2049. <https://doi.org/10.1016/j.corsci.2005.08.011>.
- Mahieu, S., Depla, D., and Gryse, R.D., 2008, Characterization of The Hardness and The Substrate Fluxes During Reactive Magentron Sputtering of TiN, Elsivier.



- Manivasagam, G., Dhinasekaran D., and Rajaminickam, A., 2010. Biomedical implants: corrosion and its prevention – a review, *Recent Patents on Corrosion Science* 2, pp. 40-54.
- Misra, A., Fayeulle, S., Kung, H., Mitchell, T.E., and Nastasi, M., 1999, Residual Stresses and Ion Implantation Effects in Cr Thin Films, *Nuclear Instruments and Methods in Physics Research*, B 148, pp. 221-215.
- Mohammed I.A., 2007, Crevice Corrosion of Titanium in High Temperature-Concentrated Chloride Environments, *Journal of Materials Engineering and Performance*, Springerlink, Vol. 16, pp.736-740.
- Mudijana, Sudjatmoko, Sujitno dan Susanto, 2001, Deposition Lapisan Tipis Titanium Nitrida pada Substrat Alumunium dengan Teknik Sputtering DC, *Proseding Seminar Nasional Pengembangan Keramik Teknologi dan Aplikasinya*, Serpong, Indonesia.
- Oshida, Y., 2007, Bioscience and Bioengineering of Titanium of Materials, pp. 179-182, Elsevier Science Ltd.
- Perez, N., 2004, Fracture Mechanics: Department of Mechanical Engineering. University of Puerto Rico New York, Kluwer academic publishers.
- Perillo, P.M., 2006, Corrosion Behavior of Coating of Titanium Nitride and Titanium-Titanium Nitride on Steel Substrates, *Corrosion*, Vol. 62, No. 2, pp. 182-185.
- Rios, D.L., Walley, A., Milan, M.T., and Hammersley, G., 1995, Fatigue Crack Initiation and Propagation on Shot-Peened Surfaces in A316 Stainless steel, *International Journal of Fatigue*, Volume 17, No. 7, pp. 493-499, Elsevier Science Limited.
- Roberge, P.R., 2000, *Handbook of Corrosion Engineering*, McGraw-Hill, New York.
- Sanjurjoa, Rodríguez, P., Pariente, C., Belzuncea, I.F., and Canteli, F.J., 2010, The Influence of Shot Peening on The Fatigue Behaviour of Duplex Stainless steels, *Procedia Engineering* 2, pp. 1539–1546, Elsevier.
- Saoula, N., Henda, K., and Kesri, F., 2009, Influence of Nitrogen Content on the Structural and Mechanical Properties of TiN Thin Films, *The Japan Society of Plasma Science and Nuclear Fusion Research*.
- Sayono, Sujitno, T., Trikasjono, T., 2007, Deposisi Lapisan Tipis ZnO: Al pada Substrat Alumina untuk Bahan Sensor Gas, Prosiding PPI – PDIPTN Pustek Akselerator dan Proses Bahan – BATAN, ISSN 0216 – 3128.
- Seshan, K., 2002, *Handbook of Thin-film Deposition Processes and Techniques*, California, Noyes Publications.
- Shah, H.N., Chawla, V., Jayaganthan, R., and Kaur, D., 2010, Microstructural Characterization and Hardness Evaluation of D.C. Reactive Magnetron Sputtered CrN Thin Film of Stainless steel Substrate, *Bulletin Materials Science*, Vol. 33, No. 2, pp. 103-110.
- Singh, G., Singh, H., Sidhu, B.S., 2014, Characterization and Investigation of In-Vitro Corrosion Behavior of Plasma Sprayed Hydroxyapatite and Hydroxyapatite-Calcium Phosphate Coatings on AISI 304. *Journal of Corrosion Science and Engineering*, Vol.17, pp. 44.



- Streicher M. A and Begum S., 2016, Corrosion, Intergranular, *Reference Module in Materials Science and Materials Engineering*, Elsevier.
- Stuart, R.V., 1983, *Vacuum Technology, Thin Film, and Sputtering*, Academic Press, Inc.
- Stueber, M., Holleck, H., Leiste, H., Seemann, K., Ulrich, S., and Ziebert, C., 2009, Concept for the Design of Advance Nanoscale PVD Multilayer Protective Thin Films, *Journal of Alloys and Compounds* 483, pp. 321-333.
- Sulistioso, G.S., Andika, W.P., Irma, S., dan Silmi, M., 2010, Sintesis, Analisis Korosi dan Toksisitas pada Material Biokompatibel Co-Cr-Mo, Majalah Metalurgi, V 25.3.2010, ISSN 0126-3188, hal 163-168.
- Sunardi, Iswanto, P.T., and Mudjijana, 2013. Pengaruh Waktu *Shot Peening* Terhadap Kekerasan dan Kekasaran Permukaan *Stainless steel* AISI 304, *Proceeding Seminar Nasional ke 8 Tahun 2013*, Rekayasa Teknologi Industri dan Informasi.
- Sukaryo, S.G., Pramono, A.W., Suparto, I., and Mariya, S., 2010, Sintesis, Analisis Korosi dan Toksisitas pada Material Biokompatibel Co-Cr-Mo, *Majalah ilmu dan teknologi*, Volume 25 Nomor 3, ISSN 0126 – 3188.
- Supriyanto, 2005, Pengaruh Pelapisan TiN dan AlN pada bahan HSS terhadap Kekerasan dan Umur Pahat, Tesis S2, Jurusan Teknik Mesin UGM.
- Sujitno, T., 2003, Aplikasi Plasma Dan Teknologi Sputtering Untuk Surface Treatment, *Workshop Sputtering untuk Rekayasa Permukaan Bahan*, P3TM-BATAN, Yogyakarta.
- Syed, R., Jiang, W., Wang, C., and Sabir, M.I., 2015, Fatigue Life of *Stainless steel* 304 Enhancement by Addition of Multi-Walled Carbon Nanotubes (MWCNTs), *Journal of Mechanical Science and Technology* 29, pp. 291-296, Elsevier.
- Trethewey, K.R., Chamberlain, J., 1991, Korosi Untuk Mahasiswa Sains dan Rekayasa, *PT. Gramedia Pustaka Utama*, Jakarta.
- Unal, O., and Varol, R., 2015, Surface Severe Plastic Deformation of AISI 304 via Conventional Shot Peening, Severe Shot Peening and Repeening, *Journal Surface Science* 351, pp. 289–295, Elsevier.
- Wang, L., Su, J.F., and Nie, X., 2010, Corrosion and Tribological Properties and Impact Fatigue Behaviors of TiN and DLC Coated *Stainless steels* in Simulated Body Fluid Environment, *Surface & Coatings Technology* 205, pp.1599-1605.
- Wen, Meng, M.Q.N., Yu, W.X., Zheng, W.T., Mao, S.X., and Hua, M.J., 2010, Growth, Stress and Hardness of Reactively Sputtered Tungsten Nitride Thin Films, *Surface and Coating Technology* 205, pp. 1953-1961.
- Wibowo, S.A., dan Erna, 2015, Pengaruh Perlakuan *Shot Peening* dan *Electroplating* Terhadap Laju Korosi dalam Larutan *Synthetic Body Fluid*, Prosiding Semnastek.
- Wibowo, S.A., Iswanto, P.T., dan Triwibowo, 2014, Pengaruh Variasi *Shot Peening* AISI 304 terhadap Perambatan Retak Fatik, *Proceeding Seminar Nasional Sains dan Teknologi*, ISSN : 2407 – 1846.



UNIVERSITAS
GADJAH MADA

Shot Peening dan Sputtering TiN pada AISI 304 untuk Meningkatkan Umur Fatik dalam Media Korosif sebagai Biomaterial Alternatif

BAMBANG HARI PRIYAMBODO, Dr. Ir. Viktor Malau, DEA.; Dr. Eng. Priyo Tri Iswanto, ST., M.Eng.

Universitas Gadjah Mada, 2020 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Wirjoadi, Nuraini, E., Aziz, I., Siswanto, B., 2011, Sifat Mekanik dan Struktur Mikro Lapisan Tipis Nitrida Besi yang Dideposisikan pada *Roll Bearing* dengan Teknik *Sputtering*, *Prosiding Pertemuan dan Presentasi Ilmiah – Penelitian Dasar Ilmu Pengetahuan dan Teknologi Nuklir*, Pusat Teknologi Akselerator dan Proses Bahan – BATAN, ISSN 0216 – 3128.

Zhan, K., Jiang, C.H., Wu, X.Y., and Ji, V., 2012, Surface Layer Characteristics of S30432 Austenite *Stainless steel* after Shot Peening, *Materials Transactions*, Vol. 53, No. 5, pp. 1002-1006, Elsevier.