REFERENCES

Abdelal, O.A.A., Othman, K.I. and Elshazly, E.S., "Stabilizing the Barium Titanate by Different Kinds of Zirconia", *International Journal of Scientific & Engineering Research*, vol. 5, no. 11, pp. 85–90, 2014.

Al-Hilli, M. F. and Al-Rasoul, K. T., "Influence of glass addition and sintering temperature on the structure, mechanical properties and dielectric strength of high-voltage insulators", *Materials and Design. Elsevier Ltd*, 31(8), pp. 3885–3890, 2010.

Al-hilli, M.F. and Al-rasoul, K.T., "Characterization of alumino-silicate glass/kaolinite composite", *Ceramics International, Elsevier*, vol. 39, no. 5, pp. 5855–5862, 2013.

Amigó, J.M., Serrano, F.J., Kojdecki, M.A., Bastida, J., Esteve, V., Reventós, M.M., Martí, F., "X-ray diffractions microstructure analysis of mullite, quartz and corundum in porcelain insulators", *J. Eur. Ceram. Soc*., vol. 25, pp. 1479–1486, 2005.

Andreeva, N.A. and Ordan'yan, S.S., "The role of component dispersity and molding pressure in the manufacturing technology of electric porcelain", *Refractories and Industrial Ceramics*, vol. 44 no. 4, pp. 277–280, 2003.

ASTM standard D149-97a, standard test method for dielectric breakdown voltage and dielectric strength of solid electrical insulating materials at commercial power frequencies, American society for testing and materials, 100 Barr harbour drive, west Conshohocken PA, 2007.

ASTM C20, Standard Test Methods for Apparent Porosity, Water Absorption, Apparent Specific Gravity and Bulk Modulus of Burned Refractory Brick and Shapes, ASTM International, 2010.

ASTM C356-10, Standard Test Method for Linear Shrinkage of Preformed High-Temperature Thermal Insulation Subjected to Soaking Heat, ASTM International, 2010.

Bakshi, M., "Electrical Power Transmission and Distribution", *Technical Publications*, ISBN 978-81-8431-271-3, 2007.

Bribiesca, S., Equihua, R. and Villaseñor, L., "Photo thermal Characterisation of Electrical Porcelain; Effects of Alumina Additions on Thermal Diffusivity and Elastic Constants" *Journal of European Ceramic Society*, vol. 19, pp. 1979- 1985, 1999.

Brusa, A., Contoli L., Dardi, M., "Gres porcelánico fino", *Ceram. Inf.*, 204, pp. 17–26, 1994.

Buchanan R.C., "Ceramic Materials for Electronics-Processing, Properties, and Applications", 2nd ed., Dekker, New York, 1986.

Buchanan, R.C., "Ceramic Materials for Electronics" (R.C. Buchanan, Ed.) Chap. 1. Dekker, New York, 1991.

Carty, W.M and Senapati, U., "Porcelain-Raw Materials, Processing, Phase Evolution and Mechanical Behaviour" *J. Am. Ceram. Soc.*, 81, pp. 3-20, 1998.

Chaudhuri, S.P., Sarkar, P. and Chakraborty, A.K., "Electrical resistivity of porcelain in relation to constitution", *Ceramics International*, vol. 25 no. 1, pp. 91–99, 1999.

Chaudhuri, S.P., Sarkar, P., "Dielectric behavior of porcelain in relation to constitution", *Ceram. Int.*, vol. 26, pp. 865–875, 2000.

Chmelík, F., Trník, A., Štubňa, I. and Pešička, J., "Creation of micro cracks in porcelain during firing", *Journal of the European Ceramic Society*, vol. 31, no. 13, pp. 2205–2209, 2011.

Choi, I.-H., Choi, J.-H., Lee, D.-I., Jung, G.-J. and Choi, Y.-G., "Properties of Porcelain Suspension Insulator for Ultra High Voltage Transmission Line", *IFAC Proceedings* Volumes, Elsevier, vol. 36, no. 20, pp. 873–876, 2003.

Correia, S.L., Oliveira, A.P.N., Hotza, D. and Segadães, A.M., "Properties of triaxial porcelain bodies: Interpretation of statistical modeling", *Journal of the American Ceramic Society*, vol. 89, no. 11, pp. 3356–3365, 2006.

de With, G., "Structural integrity of ceramic multilayer capacitor materials and ceramic multilayer capacitors", *Journal of the European Ceramic Society*, vol. 12, no. 5, pp. 323–336, 1993.

Dondi, M., Fabbri, B., Manfredini, T., Pellacani, G.C., "Microstructure and mechanical properties of porcelainized stoneware tiles", In: Proceedings of the 4th ECerS, Fanenza Editrice, Faenza, 319–326, 1995.

Ece, O.I. and Nakagawa, "Bending strength of porcelains", *Ceramics International*, vol. 28, no. 2, pp. 131–140, 2002.

Gralik, G., Chinelatto, A.L. and Chinelatto, A.S.A., "Effect of different sources of alumina on the microstructure and mechanical properties of the triaxial porcelain", *Ceramica*, vol. 60, no. 356, pp. 471–481, 2014.

Gray, B., "Early Chinese pottery and porcelain". Faber and Faber, London. Griffith, 1952.

Grigsby, Leonard L., "The Electric Power Engineering Handbook", USA: CRC Press. ISBN 0-8493-8578-4, 2001.

Gromada, M., Biglar, M., Trzepieciński, T. and Stachowicz, F., "Characterization of BaTiO3 piezoelectric perovskite material for multilayer actuators", *Bulletin of Materials Science*, vol. 40, no. 4, pp. 759–771, 2017.

Guo, X., Yuan, R., "On the grain boundaries of ZrO_2-based solid electrolyte", *Solid State Ionics*, vol. 80, pp.159–166, 1995.

Huang, C.L., Wang, J.J. and Huang, C.Y., "Sintering behavior and microwave dielectric properties of nano alpha-alumina", *Materials Letters*, vol. 59, no. 28, pp. 3746–3749, 2005.

Iqbal, Y. and Lee, W.E., "Microstructural evolution in triaxial porcelain.pdf", *J. Am. Ceram.* Soc., vol. 83, no. 12, pp. 3121–3127, 2000.

Islam, R.A., Chan, Y.C. and Islam, M.F., "Structure-property relationship in high-tension ceramic insulator fired at high temperature", *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, vol. 106, no. 2, pp. 132–140, 2004.

J. H. Chang and Tuan W., "Phase stability and microstructure evolution of yttria-stabilized zirconia during firing in a reducing atmosphere", *Ceramics International*, vol. 37, no. 4, pp 1401-1407, 2011.

Jordan, M.M., Montero, M.A., Meseguer, S. and Sanfeliu, T., "Influence of firing temperature and mineralogical composition on bending strength and porosity of ceramic tile bodies", *Applied Clay Science, Elsevier B.V.*, vol. 42, no. 1–2, pp. 266–271, 2008.

Kanno Y., "Thermodynamic and crystallographic discussion of the formation and dissociation of zircon*", J. of Mater. Sci*., vol. 24, pp. 2415–2420, 1989.

Kerr, R. and Wood, N., "Science and civilisation in China Chemistry and chemical technology", Ceramic technology Part XII, Kerr, R. (ed.), Vol. 5, Cambridge University press, UK, 2004.

Khandelwal, S. K. and R. L. Cook, "Effect of Alumina Additions on Crystalline Constituents and Fired Properties of Electrical Porcelains", *Am, Ceram. Soc. Bull.,* 49(5), pp. 522-526, 1970.

Kingery, W.D., "Introduction to Ceramics" John Wiley and Sons Inc., New York, 1967.

Kitouni, S. and Harabi, A., "Sintering and mechanical properties of porcelains prepared from algerian raw materials", *CerâMica,* vol. 57, no. 344, pp. 453–460, 2011.

Knauth, P. and Tuller, H. L., "Electrical and defect thermodynamic properties of nano crystalline titanium dioxide", *Journal of Applied Physics,* 85(2), pp. 897–902, 1999.

Krupa, P. and Malinarič, S., "Thermal properties of green alumina porcelain", *Ceramics International,* vol. 41, no. 2, pp. 3254–3258, 2015.

Lane, P., " Studio porcelain Pitman house", London, UK ISBN 13: 9780273015383, 1980.

Lee, J.S. and Kim, D.Y., "Space-charge concepts on grain boundary impedance of a high-purity yttria-stabilized tetragonal zirconia polycrystal", *Journal of Materials Research.* , pp. 2739–2751, 2001.

Lee, S.M., Kim, S.K., Yoo, J.W. and Kim, H.T., "Crystallization behavior and mechanical properties of porcelain bodies containing zinc oxide additions", *Journal of the European Ceramic Society*, vol. 25, no. 11, pp. 1829–1834, 2005.

Liebermann J., "New effective ways toward solving the problem of contamination of porcelain insulators", *Refractories and Industrial Ceramics,* vol. 43, pp. 55–64, 2002.

M'Peko, J.C., Spavieri, D.L., Da Silva, C.L., Fortulan, C.A., De Souza, D.P.F. and De Souza, M.F., "Electrical properties of zirconia-alumina composites", Solid State Ionics, vol. 156, no. 1–2, pp. 59–69, 2003.

Magagnin, D., dos Santos, C.M.F., Wanderlind, A., Jiusti, J. and De Noni, A., "Effect of kaolinite, illite and talc on the processing properties and mullite content of porcelain stoneware tiles", *Materials Science and Engineering A, Elsevier*, vol. 618, pp. 533–539, 2014.

Manfredini, T., Romagnoli, M., Rincón, J. M., "Porcelanized stone ware:architectural, processing and physico-mechanical properties." *Mater. Construcc.*, vol. 46, no. (242–243), pp. 107–118, 1996

Martin, M.C. and Mecartney, M.L., "Grain boundary ionic conductivity of yttrium stabilized zirconia as a function of silica content and grain size", *Solid State Ionics*, vol. 161, no. 1–2, pp. 67–79, 2003.

Martín-Márquez, J., Rincón, J.M. and Romero, M., "Effect of firing temperature on sintering of porcelain stoneware tiles", *Ceramics International*, vol. 34, no. 8, pp. 1867–1873, 2008.

Mazen, S.A., "Infrared absorption and dielectric properties of Li–Cu ferrite," *Materials Chemistry and Physics*, vol. 62, pp. 139–147, 2000.

McAfee, R.D., Heaton, R.D., King, J.M. and Falster, A.U., "A study of biological contaminants on high voltage porcelain insulators, I", *Electric Power Systems Research,* vol. 42, no. 1, pp. 35–39, 1997

Mehta, N.S., Sahu, P.K., Ershad, M., Saxena, V., Pyare, R. and Majhi, M.R., " Effect of ZrO_2 on the sintering behavior, strength and high-frequency dielectric properties of electrical ceramic porcelain insulator.", *Materials Research Express*, vol. 5, 015202, 2018.

Mehta, N.S., Sahu, P.K., Tripathi, P., Pyare, R. and Majhi, M.R., "Influence of alumina and silica addition on the physico-mechanical and dielectric behavior of ceramic porcelain insulator at high sintering temperature", Boletín de La Sociedad Española de Cerámica y Vidrio, vol.57, no.4, pp. 151-159, 2017.

Meng, Y., Gong, G., Wei, D. and Xie, Y., "In situ high temperature X-ray diffraction study on high strength aluminous porcelain insulator with the Al_2O_3-SiO_2-K_2O-Na_2O system", *Applied Clay Science, Elsevier B.V.*, vol. 132–133, pp. 760–767, 2016.

Nath, S., Manna, I. and Majumdar, J.D., "Nanomechanical behavior of yttria stabilized zirconia (YSZ) based thermal barrier coating", *Ceramics International, Elsevier*, vol. 41, no. 4, pp. 5247–5256, 2015.

Nayak, S., Sahoo, B., Chaki, T.K. and Khastgir, D., "Facile preparation of uniform barium titanate ($BaTiO_3$) multipods with high permittivity: Impedance and temperature dependent dielectric behavior", *RSC Advances,* vol. 4, no. 3, pp. 1212–1224, 2014.

Noori, N.R., Mamoory, R.S. and Mehraeen, S., "Effect of Materials Design on Properties of Porcelain Insulators Substitution of alumina for silica", *American Ceramic Society Bulletin,*vol. 86, no. 3, 2007.

Olupot, P.W., Jonsson, S. and Byaruhanga, J.K., "Development and characterisation of triaxial electrical porcelains from Ugandan ceramic minerals", *Ceramics International, Elsevier,* vol. 36, no. 4, pp. 1455–1461, 2010.

Osman K. I., "Synthesis and characterization of $BaTiO_3$ ferroelectric material" PhD Thesis, 2011.

Piva, D.H., Piva, R.H., Venturini, J., Ramon, J., Caldas, V., Morelli, M.R. and Bergmann, C.P., "Effect of Fe_2O_3 content on the electrical resistivity of aluminous porcelain applied to electrical insulators", *Ceramics International, Elsevier,* vol. 42, no. 4, pp. 5045–5052, 2016.

Piva, R.H., Vilarinho P., Morelli, M.R., Fiori, M.A., Montedo, O.R.K., "Influence of Fe_2O_3content on the dielectric behavior of aluminous porcelain insulators." Ceram. Int., vol. 39, pp.7323–7330, 2013.

Richerson D.W., "Modern Ceramic Engineering: Properties, processing and Use in Design, Third Edition, 1992.

Roula, A., Boudeghdegh, K. and Boufafa, N., "Improving usual and dielectric properties of ceramic high voltage insulators", *CerâMica*, vol. 55, pp. 206–208, 2009.

Sadik, C., El Amrani, I.-E. and Albizane, A., "Recent advances in silica-alumina refractory: A review", *Journal of Asian Ceramic Societies, Taibah University*, vol. 2, no. 2, pp. 83–96, 2014.

Sánchez, E., Ibáñez, M.J., García-Ten, J., Quereda, M.F., Hutchings, I.M., Xu, Y.M., "Porcelain tile microstructure: implications for polished tile properties". *J. Eur. Ceram. Soc.*, Vol. 26,pp. 2533–2540, 2006.

Sedghi, A., Riahi-noori, N., Hamidnezhad, N. and Salmani, M.R., "Effect of chemical composition and alumina content on structure and properties of ceramic insulator", *Bulletin of material science*, vol. 37, no. 2, pp. 321–325, 2014.

Shukla, M., Dutta, G., Mannam, R. and DasGupta, N., "Electrical properties of reactive-ion-sputtered Al2O3 on 4H-SiC", *Thin Solid Films. Elsevier* B.V., 607, pp. 1–6, 2016.

Štubňa, I., Trník, A. and Vozár, L., "Thermomechanical analysis of quartz porcelain in temperature cycles", *Ceramics International*, vol. 33, no. 7, pp. 1287–1291, 2007.

Štubňa, I., Trník, A., Vozár, L., "Thermomechanical and thermos dilatometric analysis of green alumina porcelain", *Ceram. Int.*, vol. 35, 1181–1185, 2009.

Tartaj, P., Serna, C.J., Moya, J.S., Requena, J., Ocana, M., De Aza, S. and Guitian, F., "The formation of zircon from amorphous $ZrO_2.SiO_2$ powder", J. Mater. Sci., vol. 31, pp. 6089–6094, 1996.

Tenorio Cavalcante, P.M., Dondi, M., Ercolani, G., Guarini, G., Melandri, M., Raimondo, M., Rocha e Almendra, E., "The influence of microstructure on the performance of white porcelain stoneware". *Ceram. Int.*, Vol. 30, No. 6, pp. 953–963, 2004.

Thurnauer, H., "Dielectric Materials and Applications" (A.R.V. Hippel, Ed.) Ceramics, Chapman & Hall, London, 1954, 1954.

Touzin, M., Goeuriot, D., Guerret-Piécourt, C., Juvé, D. and Fitting, H.J., "Alumina based ceramics for high-voltage insulation", *Journal of the European Ceramic Society*, vol. 30, no. 4, pp. 805–817, 2010.

Tuan, W.H., Lai, M.J., Lin, M.C., Chan, C.C. and Chiu, S.C., "The mechanical performance of alumina as a function of grain size", *Materials Chemistry and Physics*, vol. 36, no. 3–4, pp. 246–251, 1994.

Verkerk M. J., "Effect of grain boundaries on the conductivity of high-purity ZrO_2-Y_2O_3 ceramics", *Solid State Ionics*, vol. 6, pp. 159–170, 1982.

Wahsh, M.M.S., Khattab, R.M. and Awaad, M., "Thermo-mechanical properties of mullite / zirconia reinforced alumina ceramic composites", *Materials and Design, Elsevier Ltd*, vol. 41, pp. 31–36, 2012.

Wan, W., Feng, Y., Yang, J., Bu, W. and Qiu, T., "Microstructure, mechanical and high-temperature dielectric properties of zirconia-reinforced fused silica ceramics", *Ceramics International, Elsevier*, vol. 42, no. 5, pp. 6436–6443, 2015.

Wang, L.Y., Hon M.H., "The effects of zircon addition on the crystallization of fused silica. A kinetic study", *J. Ceram. Soc.Jpn.* vol. 102, no. 6, pp. 517–521, 1994.

William D. Callister, Jr., D.G.R., "Materials science and engineering, An introduction", *Materials Science and Engineering, an Introduction*, vol. 1, p. 885, 2010.

IR1, https://electrical-engineering-portal.com/ceramic-porcelain-and-glass-insulators