

- Aggarwal, P., Aggarwal, Y., Gupta, S.M., 2007. EFFECT OF BOTTOM ASH AS REPLACEMENT OF FINE 8, 49–62.
- Aggarwal, Y., Siddique, R., 2014. Microstructure and properties of concrete using bottom ash and waste foundry sand as partial replacement of fine aggregates. *Constr. Build. Mater.* 54, 210–223. doi:10.1016/j.conbuildmat.2013.12.051
- Alcock, C.B., 1980. Plasma processing of oxide systems in the temperature range 1000–3000 K. *Pure Appl. Chem.* 52, 1817–1827. doi:10.1351/pac198052071817
- Antrekowitsch, J., Antrekowitsch, H., 2003. Recovering of Zinc and Iron from EAF Steel Mill Dusts with Special Focus on Halogen and Residues. *Bhm-b. und Huttenmann. Monatshefte* 148, 15–20.
- Arrabal, R., Matykina, E., Viejo, F., Skeldon, P., Thompson, G.E., Merino, M.C., 2008. AC plasma electrolytic oxidation of magnesium with zirconia nanoparticles. *Appl. Surf. Sci.* 254, 6937–6942. doi:10.1016/j.apsusc.2008.04.100.
- Arro, H., Pihu, T., Prikk, A., Rootamm, R., Konist, A., 2004. COMPARISON OF ASH FROM PF AND CFB BOILERS AND BEHAVIOUR OF ASH IN ASH FIELDS.
- Arumugam, K., Ilangovan, R., James M. D., 2011. A study on characterization and use of Pond Ash as fine aggregate in Concrete. *Int. J. Civ. Struct. Eng.* 2, 466–474.
- ASTM C20, 2010. Standard Test Methods for Apparent Porosity, Water Absorption, Apparent Specific Gravity, and Bulk Density of Burned Refractory Brick and Shapes by Boiling Water. ASTM International, West Conshohocken, PA. doi:10.1520/C0020-00R10
- ASTM C62, 2013. Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale), ASTM International. West Conshohocken, PA. doi:10.1520/C0062
- ASTM C67, 2013. Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale). doi:10.1520/C0652-12A.
- ASTM C117, 2013. Standard Test Method for Materials Finer than 75- μm (No. 200) Sieve in Mineral Aggregates by Washing. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/C0117-13>
- ASTM C135, 2015. Standard Test Method for True Specific Gravity of Refractory Materials by Water Immersion. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/C0135-96R15>
- ASTM C136M, 2014. Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates. ASTM International, West Conshohocken, PA. doi:http://dx.doi.org/10.1520/C0136_C0136M-14
- ASTM C201, 2013. Standard Test Method for Thermal Conductivity of Refractories. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/C0201>
- ASTM C1069, 2014. Standard Test Method for Specific Surface Area of Alumina or Quartz by Nitrogen Adsorption. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/C1069-09R14>
- ASTM C1363, 2011. Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus, in: ASTM International. West Conshohocken, PA. doi:10.1520/C1363-11.
- ASTM C1365, 2011. Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/C1365-06R11>
- ASTM D1557, 2012. Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN·m/m³)). ASTM International,

- West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/D1557-12E01>
- ASTM D1883, 2016. Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/D1883-16>
- ASTM D2435/D2435M, 2011. Standard Test Methods for One-Dimensional Consolidation Properties of Soils Using Incremental Loading. ASTM International, West Conshohocken, PA. doi:http://dx.doi.org/10.1520/D2435_D2435M-11
- ASTM D3080/D3080M, 2011. Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions. ASTM International, West Conshohocken, PA. doi:[10.1520/D3080_D3080M-11](http://dx.doi.org/10.1520/D3080_D3080M-11)
- ASTM D3906, 2013. Standard Test Method for Determination of Relative X-ray Diffraction Intensities of Faujasite-Type Zeolite-Containing Materials. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/D3906>
- ASTM D5084, 2010. Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/D5084-10>
- ASTM D6683, 2014. Standard Test Method for Measuring Bulk Density Values of Powders and Other Bulk Solids as Function of Compressive Stress. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/D6683-14>
- ASTM D7582, 2015. Standard Test Methods for Proximate Analysis of Coal and Coke by Macro Thermogravimetric Analysis. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/D7582-15>
- ASTM E70, 2015. Standard Test Method for pH of Aqueous Solutions With the Glass Electrode. ASTM International, West Conshohocken, PA. doi:<http://dx.doi.org/10.1520/E0070-07R15>
- Bakharev, T., 2006. Thermal behaviour of geopolymers prepared using class F fly ash and elevated temperature curing. *Cem. Concr. Res.* 36, 1134–1147. doi:[10.1016/j.cemconres.2006.03.022](https://doi.org/10.1016/j.cemconres.2006.03.022)
- Barbosa, V.F.F., MacKenzie, K.J.D., Thaumaturgo, C., 2000. Synthesis and characterisation of materials based on inorganic polymers of alumina and silica: Sodium polysialate polymers. *Int. J. Inorg. Mater.* 2, 309–317. doi:[10.1016/S1466-6049\(00\)00041-6](https://doi.org/10.1016/S1466-6049(00)00041-6)
- Basu, P., 1999. Combustion of coal in circulating fluidized-bed boilers: a review. *Chem. Eng. Sci.* 54, 5547–5557. doi:[10.1016/S0009-2509\(99\)00285-7](https://doi.org/10.1016/S0009-2509(99)00285-7)
- Best, T.E., Pickles, C.A., 2001. Selective reduction of electric arc furnace dust in carbon monoxide. *Iron Steelmak.* 28, 55–70.
- bin Mohd Sani, M.S.H., bt Muftah, F., 2011. Comparison study of Bottom Ash Aggregate and Washed Bottom Ash Aggregate in concrete: Physical aspect. 2011 IEEE Symp. Business, Eng. Ind. Appl. 178–183. doi:[10.1109/ISBEIA.2011.6088799](https://doi.org/10.1109/ISBEIA.2011.6088799)
- Boonserm, K., Sata, V., Pimraksa, K., Chindaprasirt, P., 2012. Improved geopolymerization of bottom ash by incorporating fly ash and using waste gypsum as additive. *Cem. Concr. Compos.* 34, 819–824. doi:[10.1016/j.cemconcomp.2012.04.001](https://doi.org/10.1016/j.cemconcomp.2012.04.001)
- Brand, P.G.A., 1981. Current trends in electric furnace emission control. *Iron Steel Eng.* 58, 59–64.
- Bruno, M.J., 1982. Overview of ALCOA direct reduction process technology. *J. Met.* 35, A78–A78.
- Carpenter, A., Gardner, K., 2009. Use of Industrial By-Products in Urban Roadway Infrastructure. *J. Ind. Ecol.* 13, 965–977. doi:[10.1111/j.1530-9290.2009.00175.x](https://doi.org/10.1111/j.1530-9290.2009.00175.x)
- CEA, 2011. Annual Report of Central Electricity Authority 2011-12.

- CEA, 2015. CEA report.
- Chan, C.K., Yao, X., 2008. Air pollution in mega cities in China. *Atmos. Environ.* 42, 1–42. doi:10.1016/j.atmosenv.2007.09.003
- Chadel, S., Singh, S.N., Seshadri, V., 2009. Deposition characteristics of coal ash slurries at higher concentrations. *Adv. Powder Technol.* 20, 383–389. doi:10.1016/j.apt.2009.06.004
- Chen, C., Habert, G., Bouzidi, Y., Jullien, A., 2010. Environmental impact of cement production: detail of the different processes and cement plant variability evaluation. *J. Clean. Prod.* 18, 478–485. doi:10.1016/j.jclepro.2009.12.014
- Chen, Y., Zhang, Y., Chen, T., Zhao, Y., Bao, S., 2011. Preparation of eco-friendly construction bricks from hematite tailings. *Constr. Build. Mater.* 25, 2107–2111. doi:10.1016/j.conbuildmat.2010.11.025
- Chen, C., Gong, W., Lutze, W., Pegg, I.L., Zhai, J., 2011. Kinetics of fly ash leaching in strongly alkaline solutions. *J. Mater. Sci.* 46, 590–597. doi:10.1007/s10853-010-4997-z
- Chen, C., Li, Q., Shen, L., Zhai, J., 2012. Feasibility of manufacturing geopolymers bricks using circulating fluidized bed combustion bottom ash. *Environ. Technol.* 33, 1313–21.
- Cheng, A., 2012. Effect of incinerator bottom ash properties on mechanical and pore size of blended cement mortars. *Mater. Des.* 36, 859–864. doi:10.1016/j.matdes.2011.05.003
- Cheriaf, M., Rocha, J.C., Péra, J., 1999. Pozzolanic properties of pulverized coal combustion bottom ash. *Cem. Concr. Res.* 29, 1387–1391. doi:10.1016/S0008-8846(99)00098-8
- Chi, K.H., Chang, M.B., Chang, S.H., 2008. Measurement of atmospheric PCDD/F and PCB distributions in the vicinity area of Waelz plant during different operating stages. *Sci. Total Environ.* 391, 114–123. doi:10.1016/j.scitotenv.2007.10.051
- Chindaprasirt, P., Jaturapitakkul, C., Chalee, W., Rattanasak, U., 2009. Comparative study on the characteristics of fly ash and bottom ash geopolymers. *Waste Manag.* 29, 539–543. doi:10.1016/j.wasman.2008.06.023
- Chindaprasirt, P., Rattanasak, U., 2010. Utilization of blended fluidized bed combustion (FBC) ash and pulverized coal combustion (PCC) fly ash in geopolymers. *Waste Manag.* 30, 667–672. doi:10.1016/j.wasman.2009.09.040
- Das, S.K., Kumar, S., Ramachandrara, P., 2000. Exploitation of iron ore tailing for the development of ceramic tiles. *Waste Manag.* 20, 725–729. doi:10.1016/S0956-053X(00)00034-9
- Davidovits, J., Davidovics, M., 1991. GEOPOLYMER : ULTRA-HIGH TEMPERATURE TOOLING MATERIAL. *SAMPE Symp. Exhib.* 36, 1939–1949.
- Davidovits, P.J., 2002. 30 Years of Successes and Failures in Geopolymer Applications . Market Trends and Potential Breakthroughs , in: *Geopolymer 2002 Conference*. Melbourne, Australia, pp. 1–16. doi:10.1017/CBO9781107415324.004
- Davidovits, J., 2011. Geopolymer Chemistry and Applications. Institut Geopolymere Djobo, J.N.Y., Elimbi, A., Tchakouté, H.K., Kumar, S., 2016. Mechanical activation of volcanic ash for geopolymer synthesis: effect on reaction kinetics, gel characteristics, physical and mechanical properties. *RSC Adv.* 6, 39106–39117. doi:10.1039/c6ra03667h
- Demir, I., Serhat Baspinar, M., Orhan, M., 2005. Utilization of kraft pulp production residues in clay brick production. *Build. Environ.* 40, 1533–1537. doi:10.1016/j.buildenv.2004.11.021
- Demir, U., Yamik, a., Kelebek, S., Oteyaka, B., Ucar, a., Sahbaz, O., 2008. Characterization and column flotation of bottom ashes from Tuncbilek power plant. *Fuel* 87, 666–672. doi:10.1016/j.fuel.2007.05.040
- Donatello, S., Tyrer, M., Cheeseman, C.R., 2010. EU landfill waste acceptance criteria and EU Hazardous Waste Directive compliance testing of incinerated sewage sludge ash. *Waste*

- Manag. 30, 63–71. doi:10.1016/j.wasman.2009.09.028
- Earth and Industry, 2015. Earth & Industry - Sustainable and Responsible Business [WWW Document]. URL <http://earthandindustry.com/>
- Edneral, F., Afanas'ev, V., 1979. Electrometallurgy of Steel and Ferro-alloys: 1. Electric steel making. Mir Publisher, Moscow, Russia.
- Eliche-Quesada, D., Corpas-Iglesias, F. a., Pérez-Villarejo, L., Iglesias-Godino, F.J., 2012. Recycling of sawdust, spent earth from oil filtration, compost and marble residues for brick manufacturing. Constr. Build. Mater. 34, 275–284. doi:10.1016/j.conbuildmat.2012.02.079
- Elliott, J.F., 1989. Physical chemistry of carbothermic reduction of aluminum: Final report. Cambridge, MA (USA).
- Eriksson, G., Johansson, T., 1978. Chemical and thermal equilibrium calculations for a quantitative description of a non-isothermal reactor, with application to the silicon arc furnace. Scand. J. Metall. 7, 264–270.
- Eschenbach, R.C., Barcza, N.A., Reid, K.J., 1987. Plasma Torches and Plasma Torch Furnaces, in: Fienman, J. (Ed.), Plasma Technology in Metallurgical Processing. Iron and Steel Society, AIME, Warrendale, Pa, USA, pp. 77–87.
- Ettlinger, L.A., Nainan, T.D., Ouellette, R.P., Cheremisinoff, P.N., 1980. High-temperature plasma technology applications, in: Ann Arbor, MI, Ann Arbor Science Publishers, Inc.,
- Fairchild, W.T., 1970. Electric Furnace Manufacture of Silicon Metal. JOM 22, 55–58.
- Fauchais, P., Boulos, M., Pfender, E., 1987. Physical and thermodynamic properties of thermal plasmas, in: Plasma Technology in Metallurgical Processing. Iron and Steel Society, AIME, Warrendale, Pa, USA, pp. 11–26.
- Feinman, J., 1987. Plasma technology in metallurgical processing. Iron and Steel Society, Warrendale, Pennsylvania, USA.
- Feuerborn, H.J., Eck, T., 2010. Coal combustion products in Europe-production, qualities and use, today and tomorrow, in: Proceedings of the International Conference Euro Coal Ash.
- Furlong, T., Hearne, J., 1994. PROCESS FOR PRODUCING SOLID BRICKS FROM FLY ASH ' BOTTOM ASH ' LIME, GYPSUM' AND CALCIUM CARBONATE. US005358760A.
- Gauvin, W.H., 1989. Some characteristics of transferred-Arc plasmas. Plasma Chem. Plasma Process. 9, 65–84. doi:10.1007/BF01015874
- Geetha, S., Ramamurthy, K., 2010. Reuse potential of low-calcium bottom ash as aggregate through pelletization. Waste Manag. 30, 1528–35. doi:10.1016/j.wasman.2010.03.027
- Geetha, S., Ramamurthy, K., 2011. Properties of sintered low calcium bottom ash aggregate with clay binders. Constr. Build. Mater. 25, 2002–2013. doi:10.1016/j.conbuildmat.2010.11.051
- Ghosh, A., 2010. Compaction Characteristics and Bearing Ratio of Pond Ash Stabilized with Lime and Phosphogypsum. J. Mater. Civ. Eng. 22, 343–351. doi:10.1061/(ASCE)MT.1943-5533.0000028
- Giri, S.K., Das, N.N., Pradhan, G.C., 2011. Magnetite powder and kaolinite derived from waste iron ore tailings for environmental applications. Powder Technol. 214, 513–518. doi:10.1016/j.powtec.2011.09.017
- Glocker, B., Nentwig, G., Messerschmid, E., 2000. 1-40kW steam respectively multi gas thermal plasma torch system. Vacuum 59, 35–46. doi:10.1016/S0042-207X(00)00252-9
- Gray, M.L., Champagne, K.J., Soong, Y., Killmeyer, R.P., Maroto-Valer, M.M., Andr??sen, J.M., Ciocco, M. V., Zandhuis, P.H., 2002. Physical cleaning of high carbon fly ash. Fuel Process. Technol. 76, 11–21. doi:10.1016/S0378-3820(02)00006-1

- Gupta, R.C., 2013. The utilisation of iron ore fines : Technical options and challenges 55, 235–256.
- Gupta, V., Mittal, A., Gajbe, V., Mittal, J., 2006. Removal and Recovery of the Hazardous Azo Dye Acid Orange 7 through Adsorption over Waste Materials: Bottom Ash and De-Oiled Soya. *Ind. Eng. Chem. Res.* 45, 1446–1453. doi:10.1021/ie051111f
- Gupta, V.K., Mittal, A., Krishnan, L., Gajbe, V., 2004. Adsorption kinetics and column operations for the removal and recovery of malachite green from wastewater using bottom ash. *Sep. Purif. Technol.* 40, 87–96. doi:10.1016/j.seppur.2004.01.008
- Gupta, V.K., Mittal, A., Krishnan, L., Mittal, J., 2006. Adsorption treatment and recovery of the hazardous dye, Brilliant Blue FCF, over bottom ash and de-oiled soya. *J. Colloid Interface Sci.* 293, 16–26. doi:10.1016/j.jcis.2005.06.021
- Habert, G., d'Espinose de La Cailleurie, J.B., Roussel, N., 2011. An environmental evaluation of geopolymmer based concrete production: reviewing current research trends. *J. Clean. Prod.* 19, 1229–1238. doi:10.1016/j.jclepro.2011.03.012
- Halmann, M., Frei, A., Steinfeld, A., 2007. Carbothermal reduction of alumina: Thermochemical equilibrium calculations and experimental investigation. *Energy* 32, 2420–2427. doi:10.1016/j.energy.2007.06.002
- Hara, T., 1997. EAF dust treatment in Japan and new treatments, in: ENCOSTEEL: Steel for Sustainable Development. pp. 125–134.
- Hardjito, D., Wallah, S.E., Sumajouw, D.M.J., Rangan, . Rangan., 2004. On the Development of Fly Ash-Based Geopolymer Concrete. *ACI Mater. J.* 101, 467–472. doi:10.14359/13485
- HINDALCO, 2015. Hindalco Annual Report.
- Howell, W.J., Eckert, C.A., Anderson, R.N., 1988. Carbothermic Reduction Using Liquid Metal Solvents. *JOM* 40, 21–23. doi:10.1007/BF03258144
- Huang, W.-H., Lovell, C., 1990. Bottom Ash as Embankment Material, in: Geotechnics of Waste Fills—Theory and Practice. ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, pp. 71-71–15. doi:10.1520/STP25300S
- Huber, J.C., Rocabois, P., Faral, M., Birat, J.P., Patisson, F., Ablitzer, D., 2000. The formation of EAF dust, in: 58 Th Electric Furnace Conference and 17 Th Process Technology Conference. pp. 171–181.
- Huntzinger, D.N., Eatmon, T.D., 2009. A life-cycle assessment of Portland cement manufacturing: comparing the traditional process with alternative technologies. *J. Clean. Prod.* 17, 668–675. doi:10.1016/j.jclepro.2008.04.007
- Hutchison, S.G., Richardson, L.S., Wai, C.M., 1988. Carbothermic reduction of silicon dioxide—a thermodynamic investigation. *Metall. Trans. B* 19, 249–253. doi:10.1007/BF02654209
- IISI, 1998. Energy Use in the Steel Industry. Brussels.
- IMY, 2015. Indian Mineral Yearbook [WWW Document]. URL <http://ibm.nic.in/index.php?c=pages&m=index&id=551>
- Inaba, T., Watanabe, Y., Nagano, M., Ishida, T., Endo, M., 1998. Ar torch plasma characteristics and its application to waste treatment. *Thin Solid Films* 316, 111–116. doi:10.1016/S0040-6090(98)00399-X
- Indraratna, B., Nutalaya, P., Koo, K.S., Kuganenthira, N., 2011. Engineering behaviour of a low carbon, pozzolanic fly ash and its potential as a construction fill. <http://dx.doi.org/10.1139/t91-070> 28, 542–555. doi:10.1139/t91-070
- Ioana, A., 2007. Production Management in Metallic Materials Industry. Theory and Applications. Bucharest.

- Ioana, A., 2007a. Optimum Operation and Automation of Electric Arc Furnace Instalations. Rev. Install. Tech. 5, 46.
- Ioana, A., 2007b. "Management Elements for Optimization of Steel Elaboration in EAF, Fascicle of Management and Technological Engineering." Ann. Oradea Univ. 6, 315–317.
- IS 9429, 1999. Drainage System for Earth and Rockfill Dams- Code of Practice [WRD 9: Dams and Spillways]. Bureau of Indian Standards, New Delhi.
- IS 2042, 2006. Insulating Bricks Specification, Second. ed. Bureau of Indian Standards, New Delhi, India.
- Izquierdo, M., Querol, X., Davidovits, J., Antenucci, D., Nugteren, H., Fernández-Pereira, C., 2009. Coal fly ash-slag-based geopolymers: Microstructure and metal leaching. *J. Hazard. Mater.* 166, 561–566. doi:10.1016/j.jhazmat.2008.11.063
- Jaturapitakkul, C., Cheerarot, R., 2003. Development of Bottom Ash as Pozzolanic Material 48–53.
- Johansson, T., Eriksson, G., 1980. Technical Aspects on the Silicon Arc Furnace Process Based on Chemical and Thermal Equilibrium Computations. *Scand. J. Metall.* 9, 283–291.
- Johansen, K., Bruno, M., Aune, J.A., Schei, A., 2003. Aluminum carbothermic technology alcoa-elkem advanced reactor process. *Light Met. Conf.* 401–406.
- KALYANI, 2015. Kalyani Steel Report. Kanataka, India.
- Kaneko, K., Sano, N., Matsushita, Y., 1976. Decarburization and Denitrogenization of Fe and Fe-Cr Alloys by Plasma Jet of H-Ar Gas Mixture. *Trans. It. Steel Institute, Japan* 16, 680–687.
- Karim, A., Salgado, R., Lovell, C.W., 1997. Building embankments of coal combustion fly ash bBottom ash mixtures, in: Drumm E, Mauldon M (Eds.), 48th Highway Geology Symposium Proceedings and Fieldtrip Excursion Guide. Knoxville, Tennessee, USA, pp. 66–74.
- Katou, K., Asou, T., Kurauchi, Y., Sameshima, R., 2001. Melting municipal solid waste incineration residue by plasma melting furnace with a graphite electrode. *Thin Solid Films* 386, 183–188. doi:10.1016/S0040-6090(00)01640-0
- Kim, A., 2002. Physical and chemical characteristics of CCB, in: Vories KC, T.D. (Ed.), Proceeding of the Coal Combustion Byproducts and Western Coal Mines: A Technical Interactive Forum. Golden, CO, pp. 25–42.
- Kim, H.K., Jeon, J.H., Lee, H.K., 2012. Flow, water absorption, and mechanical characteristics of normal- and high-strength mortar incorporating fine bottom ash aggregates. *Constr. Build. Mater.* 26, 249–256. doi:10.1016/j.conbuildmat.2011.06.019
- Kim, H.K., Lee, H.K., 2013. Effects of High Volumes of Fly Ash , Blast Furnace Slag , and Bottom Ash on Flow Characteristics , Density , and Compressive Strength of High-Strength Mortar 662–665. doi:10.1061/(ASCE)MT.1943-5533.0000624.
- Kincay, O., Ozturk, R., 2010. Thermal Power Plants in Turkey. *Energy Sources* 25, 135–151. doi:10.1080/00908310390142190
- Kingery, W.D., Bowen, H.K., Uhlmann, D.R. (Donald R., 1976. Introduction to ceramics. Wiley.
- Knopper, T., 1985. No Title. *Iron Steel Eng.* 62, 23–26.
- Koehler, K., 2002. Hydrology monitoring and CCB placement at Trapper Mine, in: Proceedings of Coal Combustion By-Products and Western Coal Mines: A Technical Interactive Forum. Golden, Colorado, pp. 123–125.
- Krivenko, P. V., Kovalchuk, Y.G., 2002. FLY-ASH BASED ZEOLITE CEMENTS, in: Innovations

- and Developments In Concrete Materials And Construction. pp. 123–132. doi:10.1680/iadicmac.31791.0012
- Krivosky, W.A., Schuhmann, R., 1961. Derivation of phase diagram for the silicon-oxygen-carbon system. *Trans. Metall. Soc. AIME* 221, 898–904.
- Kumar, J., Naresh, D.N., 2012. Use of Bottom Ash In Lieu of Sand As Filter in Ash Dyke Embankment, in: GeoCongress 2012. American Society of Civil Engineers, Reston, VA, pp. 3845–3853. doi:10.1061/9780784412121.394
- Kumar, A., Kumar, S., 2013. Development of paving blocks from synergistic use of red mud and fly ash using geopolymers. *Constr. Build. Mater.* 38, 865–871. doi:10.1016/j.conbuildmat.2012.09.013
- Kurzeja, R., 1976. Protective coating for graphite electrodes. US3964924 A.
- Kutchko, B.G., Kim, A.G., 2006. Fly ash characterization by SEM–EDS. *Fuel* 85, 2537–2544. doi:10.1016/j.fuel.2006.05.016
- Kuwahara, K., 1983. Method of carbothermically producing aluminum. US4394167A.
- Leonards, G.A., Bailey, B., 1982. Pulverized Coal Ash as Structural Fill. *J. Geotech. Eng. Div.* 108, 517–531.
- Li, C., Sun, H., Bai, J., Li, L., 2010. Innovative methodology for comprehensive utilization of iron ore tailings: part 1. The recovery of iron from iron ore tailings using magnetic separation after magnetizing roasting. *J. Hazard. Mater.* 174, 71–7. doi:10.1016/j.jhazmat.2009.09.018
- Li, Q., Xu, H., Li, F., Li, P., Shen, L., Zhai, J., 2012. Synthesis of geopolymer composites from blends of CFBC fly and bottom ashes. *Fuel* 97, 366–372. doi:10.1016/j.fuel.2012.02.059
- Liu, Y., Du, F., Yuan, L., Zeng, H., Kong, S., 2010. Production of lightweight ceramisite from iron ore tailings and its performance investigation in a biological aerated filter (BAF) reactor. *J. Hazard. Mater.* 178, 999–1006. doi:10.1016/j.jhazmat.2010.02.038
- Lovell, C.W., Ke, T.C., Huang, W.H., Lovell, J.E., 1991. Bottom ash as highway material, Transportation Research Record 1310. Transportation Research Board, Washington DC, USA.
- Mandal, A.K., Sinha, O.P., 2014. Review on Current Research Status on Bottom Ash : An Indian Prospective. *J. Inst. Eng. Ser. A* 95, 277–297. doi:10.1007/s40030-014-0100-0
- Mandal, A.K., Sinha, O.P., 2016. Recovery of Multi-Metallic Components from Bottom Ash by Smelting Reduction Under Plasma Environment. *Metall. Mater. Trans. B* 47, 19–22. doi:10.1007/s11663-015-0484-x
- Mankhand, T.R., 2011. Carbothermic reduction of aluminium. *Banaras Metall.* 16, 89–97.
- Marto, A., Hasan, M., Hyodo, M., Makhtar, A.M., 2014. Shear Strength Parameters and Consolidation of Clay Reinforced with Single and Group Bottom Ash Columns. *Arab. J. Sci. Eng.* 39, 2641–2654. doi:10.1007/s13369-013-0933-2
- Martín, F., García, I., Díez, M., Sierra, M., Simon, M., Dorronsoro, C., 2008. Soil alteration by continued oxidation of pyrite tailings. *Appl. Geochemistry* 23, 1152–1165. doi:10.1016/j.apgeochem.2007.11.012
- Mathur, R., Chand, S., Tezuka, T., 2003. Optimal use of coal for power generation in India. *Energy Policy* 31, 319–331. doi:10.1016/S0301-4215(02)00067-8
- McLellan, B.C., Williams, R.P., Lay, J., van Riessen, A., Corder, G.D., 2011. Costs and carbon emissions for geopolymers pastes in comparison to ordinary portland cement. *J. Clean. Prod.* 19, 1080–1090. doi:10.1016/j.jclepro.2011.02.010
- Michalski, S.R., Gray, R.E., 2001. Ash disposal – mine fires – environment: an Indian dilemma. *Bull. Eng. Geol. Environ.* 60, 23–29. doi:10.1007/PL00011169
- Mishra, R.K., Rout, P., Sarangi, K., Natharma, K.C., 2011. Solvent extraction of Fe(III) from

- the chloride leach liquor of low grade iron ore tailings using Aliquat 336. *Hydrometallurgy* 108, 93–99. doi:10.1016/j.hydromet.2011.03.003
- Mishra, U.C., 2004. Environmental impact of coal industry and thermal power plants in India. *J. Environ. Radioact.* 72, 35–40. doi:10.1016/S0265-931X(03)00183-8
- Mittal, A., Kurup (Krishnan), L., Gupta, V.K., 2005. Use of waste materials—Bottom Ash and De-Oiled Soya, as potential adsorbents for the removal of Amaranth from aqueous solutions. *J. Hazard. Mater.* 117, 171–178. doi:10.1016/j.jhazmat.2004.09.016
- Mittal, A., Mittal, J., Kurup, L., 2006. Adsorption isotherms, kinetics and column operations for the removal of hazardous dye, Tartrazine from aqueous solutions using waste materials—Bottom Ash and De-Oiled Soya, as adsorbents. *J. Hazard. Mater.* 136, 567–78. doi:10.1016/j.jhazmat.2005.12.037
- Mohanty, S., Patra, N.R., 2015. Geotechnical characterization of Panki and Panipat pond ash in India. *Int. J. Geo-Engineering* 6, 13. doi:10.1186/s40703-015-0013-4
- Moore, J., Reid, K., Tylko, J., 1981. In-Flight Plasma Reduction of Domestic Chromite. *JOM* 33, 43–49.
- Murakami, K., Yamada, T., Fuda, K., Matsunaga, T., 2001. Selectivity in cation exchange property of heat-treated brown coals. *Fuel* 80, 599–605. doi:10.1016/S0016-2361(00)00124-1
- Nedovato, V., 1977. Proceedings of quality of the environment and iron and steel industry, in: *Proceedings of Quality of the Environment and Iron and Steel Industry*. Pergamon Press, Luxemburg, pp. 267–288.
- Neuschutz, D., Rossner, H.O., Bebber, H.J., Hartwig, J., 1985. Development of 3-phase arc Plasma Furnaces at Krupp. *Iron Steel Eng.* 62, 27–32.
- Pappu, A., Saxena, M., Asolekar, S.R., 2007. Solid wastes generation in India and their recycling potential in building materials. *Build. Environ.* 42, 2311–2320. doi:10.1016/j.buildenv.2006.04.015
- Park, J.-E., Youn, H.-K., Yang, S.-T., Ahn, W.-S., 2012. CO₂ capture and MWCNTs synthesis using mesoporous silica and zeolite 13X collectively prepared from bottom ash. *Catal. Today* 190, 15–22. doi:10.1016/j.cattod.2011.09.032
- Parker, J., Criswell, P., Montana, P., 2002. Colstrip steam electric station coal combustion by-product disposal, in: *Proceedings of Coal Combustion By-Products and Western Coal Mines: A Technical Interactive Forum*. Golden, Colorado, Golden, Colorado, pp. 115–122.
- Patil, G.D., Kulkarni, S.S., 2015. Performance Analysis of Pond ASH as Partial Replacement to Black Cotton Soil for Pavement Subgrade Construction. *Int. J. Sci. Res.* 4, 699–702.
- Pfender, E., 1999. Thermal plasma technology: Where do we stand and where are we going? *Plasma Chem. Plasma Process.* 19, 1–31. doi:10.1023/A:1021899731587
- Pradhan, N., Das, B., Gahan, C.S., Kar, R.N., Sukla, L.B., 2006. Beneficiation of iron ore slime using *Aspergillus niger* and *Bacillus circulans*. *Bioresour. Technol.* 97, 1876–9. doi:10.1016/j.biortech.2005.08.010
- Pradip, 1994. Beneficiation of alumina-rich Indian iron ore slimes. *Met. Mater. Process.* 6, 179–194.
- Prakash, S., Das, B., Mohapatra, B.K., Venugopal, R., 2000. Recovery of Iron Values from Iron Ore Slimes by Selective Magnetic Coating. *Sep. Sci. Technol.* 35, 2651–2662. doi:10.1081/SS-100102361
- Prakash, K., Sridharan, A., 2009. Beneficial Properties of Coal Ashes and Effective Solid

- Waste Management. Pr. Period. Hazard. Toxic Radioact. Waste Manag. 13, 239–248. doi:10.1061/(ASCE)HZ.1944-8376.0000014
- Ramadoss, P., Sundararajan, T., 2014. Utilization of Lignite-Based Bottom Ash as Partial Replacement of Fine Aggregate in Masonry Mortar. Arab. J. Sci. Eng. 39, 737–745. doi:10.1007/s13369-013-0703-1
- Rai, A., Mandal, A.K., Singh, K.K., Mankhand, T.R., 2013. Preparation and Characterization of Lime Activated Unfired Bricks Made with Industrial Wastes. Int. J. Waste Resour. (IJWR) 3, 40–46. doi:10.12777/ijwr.v3.i1.p40
- Rains, R.K., Kadlec, R.H., 1970. The reduction of Al₂O₃ to aluminum in a plasma. Metall. Trans. B 1, 1501–1506. doi:10.1007/BF02641992
- Riss, M., Khodorovsky, Y., 1967. Production of Ferroalloys. Mir Publisher, Moscow, Russia.
- Romero, M., Andrés, A., Alonso, R., Viguri, J., Rincón, J.M., 2008. Sintering behavior of ceramic bodies from contaminated marine sediments. Ceram. Int. 34, 1917–1924. doi:10.1016/j.ceramint.2007.07.002
- Roy, S., Das, a., Mohanty, M.K., 2007. Feasibility of Producing Pellet Grade Concentrate by Beneficiation of Iron Ore Slime in India. Sep. Sci. Technol. 42, 3271–3287. doi:10.1080/01496390701514824
- Roy, S., Das, A., 2008. CHARACTERIZATION AND PROCESSING OF LOW-GRADE IRON ORE SLIME FROM THE JILLING AREA OF INDIA. Miner. Process. Extr. Metall. Rev. 29, 213–231. doi:10.1080/08827500801997886
- Sarkar, R., Abbas, S.M., Shahu, J.T., Islamia, J.M., 2012. Study of Geotechnical Behaviour of Pond Ash Mixed With Marbel Dust. Int. J. Adv. Technol. Civ. Eng. 1, 99–106.
- Sarker, P.K., 2009. Analysis of geopolymers concrete columns. Mater. Struct. 42, 715–724. doi:10.1617/s11527-008-9415-5
- Satyanarayana, P.V. V, Pradeep, N., Varnma, N.S.C., 2013. A Study on the Performance of Crusher Dust In Place Of Sand and Red Soil as A Subgrade And Fill Material. IOSR J. Mech. Civ. Eng. 3, 285–288.
- Schacht, C.A., 2004. Refractories handbook. Marcel Dekker.
- Schwabe, W.E., 1972. The mechanics of consumption of graphite electrodes in electric steel furnaces. JOM 24, 65–71. doi:10.1007/BF03355809
- Senapati, P.K., Mishra, B.K., Parida, a., 2010. Modeling of viscosity for power plant ash slurry at higher concentrations: Effect of solids volume fraction, particle size and hydrodynamic interactions. Powder Technol. 197, 1–8. doi:10.1016/j.powtec.2009.07.005
- Senapati, P.K., Mohapatra, R., Pani, G.K., Mishra, B.K., 2012. Studies on rheological and leaching characteristics of heavy metals through selective additive in high concentration ash slurry. J. Hazard. Mater. 229–230, 390–7. doi:10.1016/j.jhazmat.2012.06.022
- Senapati, P.K., Mishra, B.K., 2012. Design considerations for hydraulic backfilling with coal combustion products (CCPs) at high solids concentrations. Powder Technol. 229, 119–125. doi:10.1016/j.powtec.2012.06.018
- Senapati, P.K., Mishra, B.K., Parida, a., 2013. Analysis of friction mechanism and homogeneity of suspended load for high concentration fly ash & bottom ash mixture slurry using rheological and pipeline experimental data. Powder Technol. 250, 154–163. doi:10.1016/j.powtec.2013.10.014
- Sengupta, P.K., Prasad, N., 1990. Beneficiation of high alumina iron ores. Oxford Press.
- Senior, C.L., Bool, L.E., Morency, J.R., 2000. Laboratory study of trace element vaporization from combustion of pulverized coal. Fuel Process. Technol. 63, 109–124. doi:10.1016/S0378-3820(99)00092-2

- SEPA, 2007. State Environmental Protection Administration of China: Report of the State of the Environment in China. Beijing.
- Sinha, O.P., Gupta, R.C., 1993. Acoustic Emission during Plasma Arc Melting. *ISIJ Int.* 33, 903–905. doi:10.2355/isijinternational.33.903
- Sharma, N.K., Mitra, S., Sehgal, V., Mishra, S., 2012. An Assessment of Physical Properties of Coal Combustion Residues w. r. to Their Utilization Aspects 2, 31–38.
- Siddique, R., Aggarwal, P., Aggarwal, Y., 2012. Influence of water/powder ratio on strength properties of self-compacting concrete containing coal fly ash and bottom ash. *Constr. Build. Mater.* 29, 73–81. doi:10.1016/j.conbuildmat.2011.10.035
- Singh, B.P., Singh, R., 1997. Investigation on the Effect of Ultrasonic Pretreatment on Selective Separation of Iron Values from Iron Ore Tailings by Flocculation. *Sep. Sci. Technol.* 32, 993–1002.
- Singh, M., Siddique, R., 2013. Effect of coal bottom ash as partial replacement of sand on properties of concrete. *Resour. Conserv. Recycl.* 72, 20–32. doi:10.1016/j.resconrec.2012.12.006
- Singh, M., Siddique, R., 2014. Compressive strength, drying shrinkage and chemical resistance of concrete incorporating coal bottom ash as partial or total replacement of sand. *Constr. Build. Mater.* 68. doi:10.1016/j.conbuildmat.2014.06.034
- Singh, S., Nayak, K., Pani, A., 2015. ASSESSMENT OF COAL ASH-BENTONITE MIXTURE AS LANDFILL LINER, in: 50th Indian Geotechnical Conference. Pune, India, pp. 1–9. doi:10.1061/40552(301)16.2.Moses
- Sinha, O.P., Gupta, R.C., 1994. Nitrogen Absorption Rate under Plasma Arc Compared to Resistance and Induction Melting. *ISIJ Int.* 34, 295–297. doi:10.2355/isijinternational.34.295
- Skarzyńska, K.M., 1995. Reuse of coal mining wastes in civil engineering—Part 2: Utilization of minestone. *Waste Manag.* 15, 83–126. doi:10.1016/0956-053X(95)00008-N
- Sommerville, I.D., Mclean, A., Alcock C D, 1987. No Title, in: Feinman, J. (Ed.), *Plasma Technology in Metallurgical Processing*. Iron and Steel Society, AIME, Warrendale, Pa, USA, pp. 89–102.
- Spadoni, M., Voltaggio, M., Sacchi, E., Sanam, R., Pujari, P.R., Padmakar, C., Labhasetwar, P.K., Wate, S.R., 2014. Impact of the disposal and re-use of fly ash on water quality: The case of the Koradi and Khaperkheda thermal power plants (Maharashtra, India). *Sci. Total Environ.* 479–480, 159–170. doi:10.1016/j.scitotenv.2014.01.111
- Srivastava, M., Pan, S., Prasad, N., Mishra, B., 2001. Characterization and processing of iron ore fines of Kiriburu deposit of India. *Int. J. Miner. Process.* 61, 93–107. doi:10.1016/S0301-7516(00)00030-2
- Stenkvist, S.-E., 1985. Single electrode dc arc furnace. *Iron Steel Eng.* 62, 50–54.
- Stenkvist, S.-E., B. Bowman, 1987. High-power, graphite-cathode DC arc plasma--Properties and practical applications for steelmaking and ferroalloys processing, in: *Plasma Technology in Metallurgical Processing*. Iron and Steel Society, AIME, Warrendale, Pennsylvania, USA, pp. 103–109.
- Stevens, W., Robl, T., Mahboub, K., 2009. The cementitious and pozzolanic properties of fluidized bed combustion fly ash, in: World of Coal Ash Conference. Lexington, KY, USA.
- Sultana, B., 2013. Assessing the Suitability of Coarse Pond Ash and Bottom Ash As Filter Material.
- Sun, W., Qu, Y., Yu, Q., Ni, J., 2008. Adsorption of organic pollutants from coking and

- papermaking wastewaters by bottom ash. *J. Hazard. Mater.* 154, 595–601. doi:10.1016/j.hazmat.2007.10.063
- Sun, R., Ismail, T.M., Ren, X., Abd El-Salam, M., 2015. Numerical and experimental studies on effects of moisture content on combustion characteristics of simulated municipal solid wastes in a fixed bed. *Waste Manag.* 39, 166–178. doi:10.1016/j.wasman.2015.02.018
- Sun, R., Ismail, T.M., Ren, X., Abd El-Salam, M., 2016. Effect of ash content on the combustion process of simulated MSW in the fixed bed. *Waste Manag.* 48, 236–249. doi:10.1016/j.wasman.2015.10.007
- Taha, Y., Benzaazoua, M., Hakkou, R., Mansori, M., 2016. Natural clay substitution by calamine processing wastes to manufacture fired bricks. *J. Clean. Prod.* 135, 847–858. doi:10.1016/j.jclepro.2016.06.200
- Targan, S., Olgun, a., Erdogan, Y., Sevinc, V., 2002. Effects of supplementary cementing materials on the properties of cement and concrete. *Cem. Concr. Res.* 32, 1551–1558. doi:10.1016/S0008-8846(02)00831-1
- TATA, 2015. Tata Steel Annual Report [WWW Document]. URL <http://www.tatasteel.com/investors/annual-report-2015-16/html/index.html>
- Tayler, G. V., Diadone, W., 2011. The use of bottom ash in the manufacture of clay face brick, in: 2011 World of Coal Ash (WOCA) Conference. Denver, CO, USA, pp. 1–15.
- Temuujin, J., van Riessen, A., MacKenzie, K.J.D., 2010. Preparation and characterisation of fly ash based geopolymers mortars. *Constr. Build. Mater.* 24, 1906–1910. doi:10.1016/j.conbuildmat.2010.04.012
- Thakur, R.N., Ghosh, S., 2009. EFFECT OF MIX COMPOSITION ON COMPRESSIVE STRENGTH AND MICROSTRUCTURE OF FLY ASH BASED GEOPOLYMER COMPOSITES. *ARPN J. Eng. Appl. Sci.* 4, 68–74.
- Topcu, İ.B., Toprak, M.U., Uygunoğlu, T., 2014. Durability and microstructure characteristics of alkali activated coal bottom ash geopolymer cement. *J. Clean. Prod.* 81, 211–217. doi:10.1016/j.jclepro.2014.06.037
- Torgal, F.P., Jalali, S., 2010. Cimento Portland normal versus ligantes geopoliméricos: Durabilidade e desempenho ambiental. *Teor. e Prat. Eng. Civ.* 15, 1–9.
- Toth, P.S., Chan, H.T., Cragg, C.B., 1988. Coal ash as structural fill, with special reference to Ontario experience. *Can. Geotech. J.* 25, 694–704. doi:10.1139/t88-080
- Turgut, P., 2012. Manufacturing of building bricks without Portland cement. *J. Clean. Prod.* 37, 361–367. doi:10.1016/j.jclepro.2012.07.047
- Turkdogan, E.T., Kor, G.J.W., Fruehan, R.J., 1980. Studies of blast-furnace reactions. *Ironmak. Steelmak.* 7, 268.
- Uçurum, M., Toraman, Ö.Y., Depci, T., Yoğurtçuoglu, E., 2011. A Study on Characterization and Use of Flotation to Separate Unburned Carbon in Bottom Ash from Çayırhan Power Plant. *Energy Sources, Part A Recover. Util. Environ. Eff.* 33, 562–574. doi:10.1080/15567030903117638
- Ul Haq, E., Kunjalukkal Padmanabhan, S., Licciulli, A., Haq, E. ul, Kunjalukkal Padmanabhan, S., Licciulli, A., Ul Haq, E., Kunjalukkal Padmanabhan, S., Licciulli, A., 2014. Synthesis and characteristics of fly ash and bottom ash based geopolymers-A comparative study. *Ceram. Int.* 40, 2965–2971. doi:10.1016/j.ceramint.2013.10.012
- Upadhyaya, K., Moore, J.J., Reid, K.J., 1986. Application of thermodynamic and kinetic principles in the reduction of metal oxides by carbon in a plasma environment. *Metall. Trans. B* 17, 197–207. doi:10.1007/BF02670833
- USGS, 2015. Mineral commodity summaries 2015, U.S. Geological Survey. Washington, DC.
- VEDANTA, 2015. Vedanta group annual report.
- Vijayasri, T., Raychowdhury, P., Patra, N.R., 2015. Numerical simulation of the dynamic behavior of renusagar pond ash embankment in india using a fully coupled Nonlinear

- approach. *Discovery* 40, 20–26.
- Willis, R.R., 1978. New Emphasis on Noise Control--a Steelmaker's Efforts to Protect Workforce and Community. *Iron Steel Int.* 51, 41–49.
- WSO, 2015. World Steel Production [WWW Document]. URL www.worldsteel.org
- Xu, G.R., Zou, J.L., Li, G.B., 2009. Ceramsite obtained from water and wastewater sludge and its characteristics affected by $(\text{Fe}_2\text{O}_3 + \text{CaO} + \text{MgO}) / (\text{SiO}_2 + \text{Al}_2\text{O}_3)$. *Water Res.* 43, 2885–2893. doi:10.1016/j.watres.2009.03.046
- Xu, H., Li, Q., Shen, L., Zhang, M., Zhai, J., 2010. Low-reactive circulating fluidized bed combustion (CFBC) fly ashes as source material for geopolymers synthesis. *Waste Manag.* 30, 57–62. doi:10.1016/j.wasman.2009.09.014
- Yao, Z., Jiang, Y., Jiang, Z., Wang, F., Wu, Z., 2008. Preparation and structure of ceramic coatings containing zirconium oxide on Ti alloy by plasma electrolytic oxidation. *J. Mater. Process. Technol.* 205, 303–307. doi:10.1016/j.jmatprotec.2007.11.112
- Yi, H., Hao, J., Tang, X., 2007. Atmospheric environmental protection in China: Current status, developmental trend and research emphasis. *Energy Policy* 35, 907–915. doi:10.1016/j.enpol.2006.01.019
- Zekkos, D., Kabalan, M., Syal, S.M., Hambright, M., Sahadewa, A., 2013. Geotechnical characterization of a Municipal Solid Waste Incineration Ash from a Michigan monofill. *Waste Manag.* 33, 1442–1450. doi:10.1016/j.wasman.2013.02.009.
- Zhang, J., 2003. Utilization and resource recovery of tailings from metal mine, Metallurgical Industry Press of China. Beijing, China.
- Zhang, S., Xue, X., Liu, X., Duan, P., Yang, H., Jiang, T., Wang, D., Liu, R., 2006. Current situation and comprehensive utilization of iron ore tailing resources. *J. Min. Sci.* 42, 403–408. doi:10.1007/s10913-006-0069-9
- Zhao, Y., Zhang, Y., Chen, T., Chen, Y., Bao, S., 2012. Preparation of high strength autoclaved bricks from hematite tailings. *Constr. Build. Mater.* 28, 450–455. doi:10.1016/j.conbuildmat.2011.08.078.
- Zou, J.L., Xu, G.R., Li, G.B., 2009. Ceramsite obtained from water and wastewater sludge and its characteristics affected by Fe_2O_3 , CaO , and MgO . *J. Hazard. Mater.* 165, 995–1001. doi:10.1016/j.jhazmat.2008.10.113.