

References

- Allen D. J., Chew B., Harris P., (1982), "The Formation of Chevron Cracks in Submerged Arc Weld Metal," *Welding Research Supplement*, 212- 221-s.
- Akao K, Ishihara T, Kitada T, Nishino Y, Okuda N, Wada T and Nagatani K, (1985), "Improvement of Notch Toughness and Soundness in Longitudinal Seam weld of Line pipe," 26, pp. 379-385.
- Avazkonandeh-Gharavol, M.H., Haddad-Sabzevar, M., and Haerian, A, (2009), "Influence of copper content on the microstructure and mechanical properties of multipass MMA low alloy steel weld metal deposits," *Materials & Design* 30(6), pp. 1902-1912.
- Adeyeye, A. D. and Oyawale, F. A. (2008), "Mixture experiments and their applications in welding flux design," *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 4, pp. 319-326
- Adeyeye, A. D. and Oyawale, F. A. (2009), "Weld-metal property optimization from flux ingredients through mixture experiments and mathematical programming approach," *Materials Research*, 12(3), pp. 339-343
- Anderson, V. L. and McLean, R. A. (1974), "Design of experiments: a realistic approach," Marcell Dekker, New York.
- American Society for Testing and Materials (2011), ASTM G1-03, West Conshohocken.
- Andrii G., Kostyryzhov Olexandra, O., Marenych Chris, R., Killmore and Elena V., (2015), "Strengthening mechanism in thermomechanically processed NbTi-microalloyed steel", *Metallurgical and Materials Transactions A*, 3470, 46A
- ASTM G1-03, (2011), "American Society for Testing and Materials".
- Ana Ma Paniagua-Mercado., Vector M. Lopez-Hirata., Maribel L., Saucedo Munoz., (2005), "Influence of chemical composition of flux on the microstructure and tensile properties of submerged arc weld," *Journal of Materials Processing Technology*, 169, pp. 346-351.
- Arya H K., Singh K., Saxena R K., (2018), "Effect of weld cooling rates on mechanical and metallurgical properties of submerged arc welded pressure vessel steel," *Journal of Pressure Vessel Technology*, 140, 041406-1.
- Arora K. S., Pandu R.S., Shajan N., Pathak P., Shome M., (2018), "Microstructure and impact toughness of reheated coarse grain heat affected zones of API X65 and API X80 linepipe steels", *International Journal of Pressure Vessels and pipings*, doi, 10.1016/j.ijpvp.2018.04.004
- Bang K., Park C., Jung H., Lee J, (2009), "Effects of flux composition on the element transfer and mechanical properties of weld metal in submerged arc welding," *Metals and Materials International*, 3(15), pp. 471-477.
- Benesch R., Knihnicki R., Janowski J., (1976), "Density and surface tension of blast-furnace type slags," *Arch. Hut.* 21, 591-599.
- Beidokhti B and Pouriamanesh R., (2015), "Effect of Filler Metal on Mechanical Properties of HSLA Welds," *Welding Journal*, 94, pp. 334-341-s.
- Beidokhti B., Koukabi AH., Dolati A., (2009), "Influences of titanium and manganese on high strength low alloy SAW weld metal properties," *Materials Characterization*, 6 (0), pp. 225 - 233.

- Beidokhti B., A.H. Koukabi AH., Dolati A., (2009), "Influences of titanium and manganese on high strength low alloy SAW weld metal properties," *Materials Characterization*, 6 (0), pp. 225 - 233.
- Beidokhti B., Koukabi AH., Dolati A., (2009), "Effect of titanium addition on the microstructure and inclusion formation in submerged arc welded HSLA pipeline steel", *Journal of Materials Processing Technology*, 209, pp. 4027e-35.
- Bhandari D., Chhibber R., Arora N., Mehta R., (2016), "Investigation of TiO₂-SiO₂ -CaO-CaF₂ based electrode coatings on weld metal chemistry and mechanical behavior of bimetallic welds," *Journal of Manufacturing Process*, 23, 61-74.
- Bhandari, D., Chhibber, R. and Arora, N. (2012), "Effect of electrode coatings on diffusible hydrogen content, hardness and microstructures of the ferritic heat affected zones in bimetallic welds," *Advanced Materials Research*, 383, pp. 4697-4701.
- Bhandari, D., Chhibber, R. and Arora, N. (2012), "Effect of electrode coatings on diffusible hydrogen content, hardness and microstructures of the ferritic heat affected zones in bimetallic welds," *Advanced Materials Research*, 383, pp. 4697-4701.
- Baune E., Bonnet C., and Liu S., (2000), "Reconsidering the basicity of a FCAW consumable-Part 1: Solidified slag composition of a FCAW consumable as a basicity indicator," *Welding Journal*; 79(3), pp. 57s-65s.
- Campbell H. C. and W. C. Johnson., (1957), "Bonded Fluxes for Submerged Arc Welding of Alloy Steels," *Weld. J.* (Miami, Fla.)
- Chai, C. S. and Eagar, T. W., (1982), "Slag metal reactions in binary CaF₂ – metal oxide welding fluxes", *Welding Journal*, 61(7), pp. 229-232.
- Crespo A. C., Puchol, R. Q., Gonzalez, L. P., Sanchez, L. G., Gomez Perez, C. R., Cedre, E. D., Mendez, T. O. and Pozol, J. A. (2007), "Obtaining a submerged arc welding flux of the MnO-SiO₂-CaO-Al₂O₃-CaF₂ system by fusion," *Welding International*, 21(7), pp. 502-511.
- Cornell, J. A. (2002), "Experiments with Mixtures: Designs, Models, and the Analysis of Mixture Data," *John Wiley & Sons*.
- Castello E D and Montgomery D C., (1996), "Modified desirability functions for multi- response optimization," *J Qual Technol*, 28(3), pp. 337-345
- Chang K L., Huang C T., Huang W., and Liu Y C, (2008), "Investigations of microstructure and phosphorous distribution in BOF slag," *China steel technical report*, 21, pp. 1-6
- Cheng X L, Ma H Y., Zhang J P., Chen X., Chen S H and Yang HQ., (1998), "Corrosion of iron in acid solutions with hydrogen sulphide", *Corrosion Sci.*, vol. 54(5), pp. 369-376.
- Davis, M.L.E., & Bailey N., (1991), "Evidence of Inclusion Chemistry for Element Transfer Submerged Arc Welding," *Journal Welding Research, Welding Research Supp*, vol.,70, no. 2, p.p. 58. ISSN: 00432296.
- Davis M.L.E., Coe F.R., (1977), "The Chemistry of Submerged Arc Welding Fluxes," *The Welding Institute Research Report*, 39/1977/M, pp. 1-61.
- Datta, S., Bandyopadhyay, A. and Pal, P. K. (2008), "Application of Taguchi philosophy for parametric optimization of bead geometry and HAZ width in submerged arc welding using a mixture of fresh flux and fused flux," *The International Journal of Advanced Manufacturing Technology*, 36(7-8), pp. 689-698.
- David Leroy Olson, Thomas A. Siewert, Stephen Liu., (1993), "Welding Brazing And Soldering, vol. 6, *ASM Handbook*, ASM International.
- Derringer G and Suich R, (1980), "Simultaneous optimization of several response variables," *J Qual Technol*; 12(9): pp. 214-219.
- Davidovits J., (1989), "Geopolymers and geopolymeric materials," *Thermal Analysis*, 35, pp. 429-41
- Designation: D1141 - 98, (2013), "Standard Practice for the Preparation of Substitute Ocean Water, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee."
- Daramola O.O., Adewuyi B.O., and Oladele I.O., (2010), "Effects of heat treatment on the

- mechanical properties of rolled medium carbon steel," *Journal of Minerals and Materials Characterization and Engineering*; 9, no. 8, pp. 693 - 708.
- Dallam C. B., Liu S., and Olson D. L., (1985), "Flux Composition Dependence of Microstructure and Toughness of Submerged Arc HSLA Weldments," *Welding Research Supplement*, pp. 140-152-s.
- D.P Edmonds., (1978), "Cladding Of Pressure Vessel Steels for Coal Conversion Applications - A Literature Review", *Metals and Ceramics Division, Oak Ridge National Laboratory, Tennessee* 37830
- Eriksson G, Pelton AD, (1993), *Met Mater Trans B* 24, pp. 807-816.
- Easterling K., (1992), "Introduction to the physical metallurgy of welding", Butterworth-Heinemann.
- Fox A.G., Eakes M.W., and Franke G.I., (1996), "The Effect of small changes in flux basicity on the acicular ferrite content and mechanical properties of submerged arc weld metal of navy HY-100 steel," *Welding Research Supplement*, 330s-342s.
- Fleck N. G., Grong O., Edwards G. R., and Matlock D. K., (1986), *Weld. J.* 65, pp.113s.
- Grey J.M., (2002), "An independent view of linepipe and linepipe steel for high strength pipelines, Microalloying International, LP, Houston, Texas, X80 pipeline cost workshop.
- Gupta S. K, Raja A R, Vashista M, Yusufzai M Z K, (2018), "Effect of heat input on microstructure and mechanical properties in gas metal arc welding of ferritic stainless steel", *Materials Research Express*, 6 (3), 036516.
- Guimaraes de Souza LF, de Souza Bott I, (2005), Ferreira Jorge JC, Guimarães AS, Rocha Paranhos R., "Microstructural analysis of single pass 2.25% Cr-1.0% Mo steel weld metal with different manganese amounts," *Mater Characterization*, 55, pp.19-27.
- Golovko V. V., and Potapov N. N., (2011), "Special features of agglomerated (ceramic) fluxes in welding," *Welding International*, 25(11), pp. 889-893
- Garai M., Sasmal N., Molla A. R., and Karmakar B., (2015), "Structural effects of Zn+2/Mg+2 ratios on crystallization characteristics and microstructure of fluorophlogopite mica-containing glass ceramics," *Solid State Sciences*, vol. 44, pp. 10-21.
- Garai M., Sasmal N., Molla A. R., Singh S. P., Tarafder A., and Karmakar B., (2014), "Effects of nucleating agents on crystallization and microstructure of fluorophlogopite mica-containing glass ceramics," *Journal of Materials Science*, vol. 49, no. 4, pp. 1612- 1623.
- Narang H K., Mahapatra M M., Jha P K and Mukherjee I., (2012), "Modelling and predicting the effects of submerged arc weldment process parameters on weldment characteristics and shape profiles," *Proc IMechE Part B., J Engineering Manufacture*, 226 (7), 1230-1240.
- Hashemi S. H., and Mohammadyani D., (2012), "Characterisation of weldment hardness, impact energy and microstructure in API X65 steel," *International Journal of Pressure Vessels and Piping*, 98, pp. 8-15
- Harrington, E. C. (1965), "The Desirability Function", *Industrial Quality Control*, 21(10), pp. 494-498.
- Houldcroft, P. T. (1977), "Welding Process Technology," Cambridge Univ. Press.
- Houldcroft, P. T. (1989), "Submerged-Arc Welding", Abington Publishing," Cambridge, England
- Hummel, F.A, (1984), "Introduction to phase Equilibria in Ceramics systems," CRC press Limited
- Hongwei W., Chi Yu., and Shaowen H., (2015), "Effect of heat treatment on mechanical property and electrochemical corrosion behaviour of X65 pipeline steel in 3.5 wt. % NaCl," *Int. J. Electrochemical Sci.*, 10, pp. 5827 - 5841.
- Ichimura M., Sasajima Y., Imabayashi M, (1991), "Grain boundary effect on diffusion of hydrogen in pure aluminium," *Mater Trans JIM*, 32, pp. 1109e-14.
- Jackson C.E, (1973), "Fluxes and Sags in Welding," *Welding Research council Bull.* 190.
- Jackson C.E., James T., and Michael D., (1977), "Optimization of performance of Arc Welding using fluxes in Welded Ship Structures from HY-100 and HY-130 KPSI, Ohio State University Department of Welding Engineering, Office of Naval Research, Department of the Navy, Arlington.

- John Piper, (2002), "X80 Line pipe for small diameter (DN450 and smaller) high strength pipelines," One Steel, Oil & Gas Pipe, Kembla Grange, Nippon Steel Corporation and Kawasaki Steel Corporation.
- Jindal S., Chhibber, R., and Mehta, N. P., (2013), "Modelling flux chemistry for submerged arc weldments of high-strength low-alloy steel", Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 228, issue, 10, pp. 1259-1272.
- Jindal S., Chhibber, R., Mehta, N. P., (2013), "Effect of flux constituents and basicity index on mechanical properties and microstructural evolution of submerged arc welded high strength low alloy steel," Materials Science Forum vol. 738-739, pp. 242-246.
- Jorge JCF, Souza LFG, Rebello JMA, (2001), "The Effect of chromium on the microstructure/toughness relationship of C-Mn welds metal deposits," Mater Characterization, 47, pp. 195-205
- Jindal S., Chhibber R., Mehta NP., (2013), "Investigation on flux design for submerged arc welding of high strength low-alloy steel," Journal of Engineering Manufacture, 227, pp. 383-95.
- Jindal, S., Chhibber, R., and Mehta, N. P., (2013), "Effect of welding parameters on bead profile, microhardness and H₂ content in submerged arc welding of high-strength low-alloy steel", Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 228 (1), 82-94.
- Jindal, S., Chhibber, R., and Mehta, N. P., (2013), "Design and development of fluxes for submerged arc welding of HSLA steel", International Journal of Surface Engineering and Materials Technology, 3 (1), pp. 52-57.
- Jindal, S., Chhibber, R., and Mehta, N. P., (2015), "Prediction of element transfer due to flux and optimization of chemical composition and mechanical properties in high-strength low alloy steel weld", Journal of Process Manufacture, IMeche Part B, 229 (5), pp. 785-801
- Jung E J., Kim W., Sohn I., Min D J., (2010), "A study on the interfacial tension between solid iron and CaO-SiO₂-MO system," J. Mater. Sci. 45, 2023-2029.
- Jung E J., Min D J., (2012), "Effect of Al₂O₃ and MgO on interfacial tension between calcium silicate-based melts and a solid steel substrate," Steel Res. Int. 83, 705-711.
- Kaur G., Kumar M., Arora A., Pandey O. P., and Singh K., (2011), "Influence of Y₂O₃ on structural and optical properties of SiO₂- BaO-ZnO-xB₂O₃-(10-x) Y₂O₃ glasses and glass ceramics," Journal of Non-Crystalline Solids, vol. 357, no. 3, pp. 858-863.
- Kane RD., (1985), "Roles of H₂S in behaviour of engineering alloys", International Metals Reviews, 30(6), pp. 291-301.
- Karun, Jindal S., Gupta, R.D., (2011), "Effect of SAW parameters on weld element transfer in SS316", International Journal of Current Engineering and Technology, 1, ISSN 2277-4106
- Kanjilal P., Pal T.K., Majumdar S.K., (2006), "Combined effect of flux and welding parameters on chemical composition and mechanical properties of submerged arc weld metal," Journal of Materials Processing Technology 171, pp. 223-231.
- Kanjilal P., Pal T. K., and Majumdar S. K., (2007), "Prediction of Element Transfer in Submerged Arc Welding," Welding Journal, pp. 135-146-s.
- Kanjilal P, Majumdar SK and Pal TK, (2005), "Prediction of acicular ferrite of C-Mn steel," ISIJ Int, 45(6), pp. 876-885.
- Kettel. W. K., (1993), "Correlation of Flux Composition and Inclusion Characteristics with Submerged Arc Weld Metal Properties in HY- 100 Steel," Thesis, Naval Postgraduate School Monterey, California.
- Kerstan M., Muller M., and Russel C., (2011), "Binary, ternary and quaternary silicates of CaO, BaO and ZnO in high thermal expansion seals for solid oxide fuel cells studied by high temperature X-ray diffraction (HT-XRD)," Materials Research Bulletin, 46, 12, 2456-2463.
- Khale D., and Chaudhary R., (2007), "Mechanism of geopolymerization and factors influencing its development, a review, Mater Sci., 42, 729, 46.
- Kim J B., Choi J K., Han I W., Sohn I., (2015), "High-temperature wettability and structure of the TiO₂-MnO-SiO₂-Al₂O₃ welding flux system," Journal of Non-Crystalline Solids, xxx.
- Kook-soo Bang, Chan Park, Hong-chul Jung, and Jong-bong Lee, (2009), "Effects of Flux

- Composition on the Element Transfer and Mechanical Properties of Weld Metal in Submerged Arc Welding," *Met. Mater. Int.* 15 (3), pp. 471-477.
- Koukabi, A., North, T. H., and Bell, H. B., (1978), "Flux Formulation, Sulphur, Oxygen, and Rare-Earth Additions in Submerged Arc Welding," *International Conference on Trends in Steels and Consumables for Welding*, London, 13-16, Paper 22, pp. 281-297.
- Kohno, R., Takami, T., Mori, N., and Nagano, K., (1982), "New fluxes of improved weld metal toughness for HSLA steels", *Welding Journal* 61 (12):373-s to 380-s.
- Kou, S., (2003), "Welding Metallurgy", John Wiley & Sons, Inc., Hoboken, New Jersey.
- Koh SU., Kim JS., Yang BY., and Kim KY., (2004), "Effect of line pipe steel microstructure on susceptibility to sulfide stress cracking", *Corrosion Science*, 60(3), 244-253.
- Kozyrev N.A., Igushev V.F., Kryukov R.Ye., (2014), "Development of additions to welding fluxes in welding of low-alloy steels," *Welding International*, 28 (5), pp. 403-405.
- Kozyrev N A., Kryukov N E., Kryukov R E., Igushev V F., (2015), "Possibilities of Application of Carbon-Fluorine Containing Additions in Submerged-Arc Welding," *IOP Conf. Series: Materials Science and Engineering* 91, doi:10.1088/1757-899X/91/1/012018.
- Kozyrev N A., Kryukov N E., Kryukov R E., Bendre Yu. V., (2017), "Carbon-containing additions for welding flux," *Welding International*, 31 (5), pp. 369-373.
- Lau T., Weatherly G.C., Lean A. MC., (1986), "Gas/Metal/Slag reactions in submerged arc welding using CaO- Al₂O₃ based fluxes," *Welding research supplement*, pp. 31-38.
- Li J.G., Coudurier L., Eustathopoulos N., (1989), "Work of adhesion and contact angle isotherms of binary alloys on ionocovalent oxides," *J. Mater. Sci.* 24, 1109-1116.
- Li J.G., (1992), "Wetting and interfacial bonding of metals with ionocovalent oxides," *J. Am. Ceram. Soc.* 75, 3118-3126.
- Liu C., and Bhole S. D., (2013), "Challenges and developments in pipeline weldability and mechanical properties," *Science and Technology of Welding and Joining*, vol. 18 no. 2, 181.
- Mathias, L.L.S., Sarzosa, D.F.B., Ruggieri, C., (2013). "Effects of specimen geometry and loading mode on crack growth resistance curves of a high-strength pipeline girth weld", *International Journal of Pressure Vessels and Piping*, 111, 112, pp. 106-119.
- Ma H., Cheng X., Li G., Chen S., Quan Z., Zhao S., (2000), "The influence of hydrogen sulphide on corrosion of iron under different conditions. *Corrosion Science*," 42(10), pp. 1669- 1683.
- Messler, R.W., (2004), "Principles of welding: processes, physics, chemistry and metallurgy", John Wiley.
- Mills K.C., (2011), "The Estimation of Slag Properties," *Southern African Pyrometallurgy*.
- Mills K.C., (2000), "Fundamentals of Metallurgy".
- Morrison, W. B. (2000), "Overview of microalloying in steel", *The Use of Vanadium in Steel- Proceedings of the Vanitec Symposium*, Guilin, China.
- Montgomery, D. C. (2008), "Design and analysis of experiments," Wiley, New York.
- Mosallae M., Hydari J., Ghassemy S., and Mashreghee A., (2013), "Effect of E8010-P1 electrode composition on the weld metal properties", *International Journal of Pressure Vessel and Piping*.
- Mukerji J., (1965), *Journal of American Ceramic society*, vol. 48(4), No. 4, pp. pp. 210-213.
- Nagu G. A., Amarnath, and Namboodhiri T. K., (2000), "Effect of heat treatments on the hydrogen embrittlement susceptibility of API X-65 grade line-pipe steel," *Bulletin of Materials Science*, 26, no. 4, pp. 435-439.
- NACE TM0284e (2003), *NACE International Evaluation of pipeline and pressure vessel steels for resistance to hydrogen-induced cracking*.
- Notched Bar or Impact Testing Part II - TWI, 10/7/2020.
- North T. H., Bell H. B., Koukabi A., and Craig I., (1979), "Notch Toughness of Low Oxygen Content Submerged Arc Deposits," *Supplement to the Welding Journal-xl*, pp. 343-354-s.
- North, T. H., Bell H. B., Nowicki A., and Craig I., (1978), "Slag/Metal Interaction, Oxygen and Toughness in Submerged Arc Welding," *Welding journal*, 57 (3), *Research Suppl.*, pp. 63-s to 75-s.
- Paul Bilston and Milan Sarapa., (2002), "International use of X80 Pipelines: "The Experience

Base", GHD Pty Ltd Australia, Australian Pipeline Industry Association Research and Standards Committee.

- Philip Venton., (2002), "Design Constraints against the use of X80 for Australian Pipelines," Australian Pipeline Industry Association Research and Standards Committee.
- Palm J.H., (1972), "How fluxes determine the metallurgical properties of submerged arc welds," 358-s to 360-s.
- Pandey ND, Bharti A and Gupta SR, (1994), "Effect of submerged arc welding parameters and fluxes on element transfer behaviour and weld-metal chemistry", J Mater Process Tech, 40, pp. 195-211.
- Park GT., Koh SU., Jung HG., and Kim KY., (2008), "Effect of microstructure on the hydrogen trapping efficiency and hydrogen induced cracking of line pipe steel," Corrosion Science, 50(7), pp. 1865- 1871.
- Plessis J.D., Toit M.D., Pistorious P.C., (2007), "Control of diffusible weld metal hydrogen through flux chemistry modification," Welding Journal, 86, pp. 273-280.
- Peng Y., Chen W., and Xu Z., (2001), "Study of high toughness ferrite wire for submerged arc welding of pipeline steel," Mater. Characterization, 47, pp. 67-73.
- Quintana R., Cruz A., Perdomo L., Castellanos G., García L. L, Formoso, A. And Cores, A. (2003), "Study of the transfer efficiency of alloyed elements in fluxes during the submerged arc welding process," Welding international, 17(12), pp. 958-965.
- Ragu S. Nathan, Balasubramanian, V. S., Malarvizhi, A. G. Rao, (2015), "Effect of welding processes on mechanical and microstructural characteristics of high strength low alloy naval grade steel joints," xx, pp. 1-10.
- Renwick B.G., and Patchett B.M, "Operating characteristics of the submerged arc processes", Welding Research Supplement, 1976, 69s-76s
- Ramunni V., Coelho T. D., and Miranda P. De, (2006), "Interaction of hydrogen with the microstructure of low-carbon steel," Materials Science and Engineering, A, 435-436, pp. 504-514.
- Rahim M., Hamit M., Shefik I., (2009), "Correlation of microstructure and hardness of two-pass submerged arc welds of line pipe steel X65", International Journal of Microstructure and Materials Properties, 4, 347e-55.
- Sahni, V., Singh, K. and Pandey, S. (2009), "Waste to Wealth: Reuse of Slag as a Flux in Submerged Arc Welding," Asian Journal of Chemistry, 21(10), pp. 72-75.
- Sakaguchi S., Yamaguchi T., and Nakano Y., (1994), "High-efficiency submerged arc welding for corner joint of box shaped columns," Kawasaki Steel Giho (Japan), 26(4), pp. 163-167.
- Schwemer D.D., Olson D.L., Williamson D.L., (1979), "Relationship of weld penetration to the welding flux," Welding Research Supplement, pp. 153-160.
- Shukla S. K., Santosh K., Saikat De., Bhakat A. K., Atul S., Jha B. K., Basudeb M., Alok V., Singh A. K., (2016), "Development of API X70 grade hot rolled coils for spiral welded pipes", International journal of metallurgical engineering, 5(1), pp. 9-14.
- S.H. Hashemi. (2008), "Apportion of Charpy energy in API 5L grade X70 pipeline steel", International Journal of Pressure Vessels and Piping 85 (2008) 879-884
- Sharma L., Chhibber. R., (2019), "Effect of heat treatment on mechanical properties and corrosion behaviour of API X70 linepipe steel in different environments, Trans Indian Inst Met, 72 (1), pp. 93-110.
- Sharma L., Chhibber. R., (2019), "Microstructure evolution and electrochemical corrosion behaviour of API X70 linepipe steel in different environments," International Journal of Pressure Vessels and Piping, 171, pp. 51-59.
- Singer, F., and Singer, S., (1979), "Ceramica Industrial , Enciclopedia de la Quimica Industrial Tomo 9," Vol. 1, ed. Urmo, S.A (Ed.), pp. 236-257, ISBN 84-314 -0177-X.
- Singh B., Khan Z.A., Siddiquee A.N., (2013), "Review on effect of flux composition on its behavior and bead geometry in submerged arc welding," Journal of Mechanical Engineering Research, vol. 5(7), pp. 123-127.
- Singh, K. and Pandey, S. (2008), "Economics of Recycling Submerged Arc Welding Slag as a

- Flux," Proceedings of the 8th International Conference on Trends in Welding Research.
- Signes E. G., and Baker J. C., (1979), "Effect of Columbium and Vanadium on the Weldability of HSLA Steels," Welding Research Council.
- Specification for line pipe, (2008), "ISO 3183:2007, petroleum and natural gas industries-steel pipe for pipeline transportation system," ANSI/API specification 5L, forty-fourth edition
- Sowmya T., and Sankaranarayanan S.R, (2004), "Spectroscopic analysis of slags—preliminary observations," VII International Conference on Molten Slags Fluxes and Salts, The South African Institute of Mining and Metallurgy.
- Shigeta H., and Kazumi O., The Densities and the Surface Tensions of Fluoride Melts, ISIJ International. Vol. 29, No. 6, pp 477-485, 1989.
- The IIW formula for carbon equivalent, (1967), Techn. Rep. IIW Doc. IX-535—67.
- Tuliani S.S., Boniszewski T., and Eaton N.F., (1969), "Weld metal Fabrication", 37,327.
- Tang J., Shao Y., Guo J., Zhang T., Meng G., and Wang F., (2010), "The effect of H₂S concentrations behaviour of carbon steel at 900C, Corrosion Science," 52(6), pp. 2050-2058.
- Terashima H., Tsuboi j., (1976), "Hydrogen in submerged arc weld metal produced with agglomerated flux," Welding Journal of Japan, 45, pp. 28-33.
- Trench C.J., Kiefner J.F., (2001), "Oil Pipeline Characteristics and Risk Factors"; Illustrations from the Decade of Construction.
- Thomas R.D. Jr., (1977), "Submerged-Arc Welding of HSLA Steels", Metal Progress, 111(4), pp. 30-36.
- Trindade B. V., Payao C. D. J., Souza G. F. L., Paranhos R. D. R., (2007), "Role of addition of Ni on the microstructure and the mechanical behaviour of C-Mn weld metals," 5(1), pp. 177-183.
- Tsuboi and Terashima H., (1983), "Review of strength and toughness of Ti and Ti-B microalloyed deposits", Welding in the World, 21 (11/12), pp. 304-316.
- T. Young, G. Peacock, Miscellaneous Works of the Late Thomas Young VI: Including His Scientific Memoirs, Kessinger Publishing LLC, Montana, 2007 1-418.
- Ushio M., Zaghloul B., Metwally W., A.M Morsy., (1995), "Effect of Submerged arc welding flux chemical composition on weldment performance," Trans. JWRI, 24(1), pp. 45-53.
- Vishal Singh, Rajwinder Sing , Kanwer Singh Arora, Dhiraj K. Mahajan., (2019), "Hydrogen induced blister cracking and mechanical failure in X65 pipeline steels," International Journal of Hydrogen Energy, xxx(xxxx) xxx.
- Vries De., Roy R. C., and Osborn, E. F. J., (1955), J. Am. Ceram. Soc. 38, pp. 158
- Wang L J., Chou K C., Chen S., (2005), "Estimating ternary surface tension for systems with limited solubility," Z. Metallkd. 96, 948-950.
- Yanhui Liu, Xuwei Lv, Chenguang Bai and Bin Yu, Surface Tension of the Molten Blast Furnace Slag Bearing TiO₂: Measurement and Evaluation, ISIJ International, Vol. 54, No. 10, pp. 2154-2161, 2014.
- Yan H. Q., Wu K. M., Wang H. H., Li L., Yin Y. Q., and Wu N. C., (2014), "Effect of fast cooling on microstructure and toughness of heat affected zone in high strength offshore steel," Science and Technology of Welding and Joining, Vol., 19, no. 4, pp. 355-360.
- Yoshino Y., and Stout R. D., (1979), "Effect of Microalloys on the Notch Toughness of Line Pipe Seam Welds," Welding Research Supplement, pp. 59-68-s.
- Yoshino Y., and Stot R. D., (1979), "Effect of Microalloys on the Notch Toughness of Line Pipe Seam welds," March, Supplement to the Welding Journal.
- Zhao MC, Yang K, Xiao FR, Shan Y., (2003), "Continuous cooling transformation of undeformed and deformed low carbon pipeline steels," Mater Sci Eng A, 355, pp. 126-36.
- Zhao M.C., Yang K., and Shan Y.-Y., (2003), "Comparison on strength and toughness behaviours of micro-alloyed pipeline steels with acicular ferrite and ultrafine ferrite," Materials Letters, 57, no. 9-10, pp. 1496-1500.