

7. REFERENCES

- Bessinger, D., Du Plooy, H., Pistorius, P.C., Visser, C., (1977) *Characteristics of Some High Titania Slags, Heavy Minerals 1997*, South African Institute of Mining and Metallurgy, pp. 151-156.
- Brauer, G, Littke, W., (1960) *Über den Schmelzpunkt und die thermische Dissoziation von Titandioxyd*, Journal of Nuclear Chemistry, **16**, pp 67-76.
- Cooper, C.F., and Kitchener, J.A., (1959) *The foaming of molten silicates*, J. Iron Steel Inst., **193** pp 18-55.
- Eriksson, G., and Pelton, A.D., (1993) *Critical evaluation and optimization of the thermodynamic properties and phase diagrams of the MnO-TiO₂, MgO-TiO₂, FeO-TiO₂, Ti₂O₃-TiO₂, Na₂O-TiO₂, and K₂O-TiO₂ systems*, Metallurgical and Materials Transactions B, **24B**, pp. 795-805.
- Eriksson, E., Pelton, A.D., E. Woermann, E. and Ender A., (1996) *Measurement and thermodynamic evaluation of phase equilibria in the Fe-Ti-O system*, Berichte der Bunsengesellschaft für physikalische Chemie, **100**, (11), pp. 1839-1849.
- le Roux, J.T.F., (2001) *Fluidised-bed chlorination of titania slag*, MEng thesis, University of Pretoria.
- Ghag, S.S., Hayes, P.C., Lee H., (1998) *Physical model studies on slag foaming*, ISIJ Int., **38**, (11), pp. 1201-1207.
- Grau, A.E., (1979) *Liquidus temperatures on the TiO₂-rich side of the FeO-TiO₂ system*, Canadian Metallurgical Quarterly, **18**, pp. 313-321.
- Grau, A.E., Poggi, D., (1978) *Physico-chemical properties of molten titania slags*, The Metallurgical Society of CIM, Annual Volume, pp. 97-102.
- Handfield, G., Charette, G.G., (1971) *Viscosity and structure of industrial high TiO₂ slags*, Canadian Metallurgical Quarterly, **10**, (3), pp. 235-243.
- Handfield, G., Charette, G.G., Lee, H.C., (1971) *Viscosity of Industrial high TiO₂ slags*, Light Metals, AIME, New York, pp. 422-432.

Hara, S., and Ogino, K., (1992) *Slag foaming Phenomenon in Pyrometallurgical Processes*, ISIJ Int., **32**, pp. 81-86.

Jiang, R., and Fruehan, R.J., (1991), *Slag foaming in Bath Smelting*, Metallurgical Transactions B, **22B**, pp. 481-489.

MacChesney, J.B., Muan, A., (1961) *Phase equilibria at liquidus temperatures in the system iron oxide-titanium oxide at low oxygen pressures*, The American Mineralogist, **46**, pp. 572-583, May-June 1961.

MacPherson, R.D., (1982) *Mineral processing at Richards Bay Minerals*, Proceedings, 12th CMMI Congress. Jhb. S.Afr. Inst.Min.Metall., (or Geol.Soc.S. Afr), pp. 835-839.

Ogawa, Y., Huin, D., Gaye, H., Tokumitsu, H., (1993), *Physical Model of Slag foaming*, ISIJ Int., **33**, (1), pp. 224-232.

Ozturk, B., and Fruehan, R.J., (1995) *Effect of Temperature on Slag Foaming*, Metallurgical and Materials Transactions B, **26B**, pp. 1086-1091.

Pesl, J., and Eric, R.H., (1996) *Phase equilibria and thermodynamics in the Fe-Ti-O-X system at 1500°C and 1600° C*. Minerals & Materials '96, vol. 1. Somerset West, South-Africa., The South African Institute of Mining and Metallurgy, pp. 59-66.

Pistorius, P.C., (1999) *Limits on Energy and Reductant inputs in the control of Ilmenite Smelters*, Heavy Minerals 1999, Proceedings of a conference held in Durban, 15 - 17 November 1999, South African Institute of Mining and Metallurgy.

Pistorius, P.C., (2002) *The relationship between FeO and Ti₂O₃ in ilmenite smelter slags*, Scandinavian Journal of Metallurgy, **31**, pp. 120-125.

Pistorius, P.C., le Roux, J.T.F., (2002) *Fluidised-bed chlorination of titania slags*, Canadian Metallurgical Quarterly, in press.

Pretorius, E.B., and Carlisle, R.C., (1998) *Foamy slag Fundamentals and their Practical Application to Electric Furnace Steelmaking*, Electric Furnace Conference Proceedings, pp. 275-292.

Roscoe, R (1952) *The viscosity of suspensions of rigid spheres*, British Journal of Applied Physics, **3**, pp. 267-269.

Stickler, H., (1984) *Variante des Elred-Verfahrens*, Stahl und Eisen, **104**, (11), pp. 539-541

Zhang Y, Fruehan R.J., (1995a) *Effect of the bubble size and chemical reactions on slag foaming*, Metallurgical and Materials Transactions B , **26B**, pp. 803-812

Zhang Y, Fruehan R.J., (1995b) *Effects of Carbonaceous Particles on Slag Foaming*, Metallurgical and Materials Transactions B , **26B**, pp. 813-819

Temperature	1700°C (1427°C)
Pressure	101.325 kPa
Time	2" (upward blowing)
Slag level	1"
Gas flow rate	0.05 l/min
Mass flow rate	0.001 kg/min
Particle size	0.1-10 µm
Particle shape	spherical
Particle density	2.0 g/cm ³
Particle size	0.1-10 µm
Particle shape	spherical