

Curriculum Vitae

Name : Iwan Hiralal
Year of birth : 1950
Nationality : Dutch
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SUMMARY

Professional with academic education and more than 25 years international experience gained in various positions in Operations, R&D and Corporate Central Office in the field of Bauxite/Alumina refining. Strong blend of theoretical and practical knowledge resulted in a proven record of achievements. Expert in Bayer process technology including design and optimization of industrial crystallization of aluminium tri-hydrate, $Al(OH)_3$. Former employe of Alcoa/Suralco and BHPBilliton/Shell. Since mid 2004 working as independent technical expert in the international Bauxite and Alumina industry.

ACADEMIC EDUCATION

Engineering degree (MSc) in Mineral Processing and Extractive Metallurgy from the TECHNICAL UNIVERSITY OF DELFT, The NETHERLANDS

EXPERIENCE PROFILE

July 2004 - Present: Director Hiracon Consultancy, Bauxite/Alumina Technology

Independent process consultant providing expert process technical and techno-economic services and advice via Technical Service Agreements with Worsley Alumina in West Australia, Aughinish Alumina in Ireland and Sherwin Alumina in Texas, USA. Other customers include Global Alumina (design greenfield alumina refinery in Guinea, Africa), Rusal/VAMI (Modernization and Conversion from floury to sandy alumina in the Fria refinery in Guinea Africa, Nikolaev refinery in Ukraine and UAZ refinery in Russia). Worley Parsons (Precipitation project related to the expansion of the Comalco alumina refinery, Queensland, Australia).

1994 – July 2004; Central Office, BHPBilliton International Metals, The Netherlands

In the position of joint venture liason manager in Suriname responsible for alignment of techno-economic issues at the interface of the Bauxite Mining and Alumina Refining Operations.

In the position of sr process consultant providing process-technical and techno-economic support to BHPBilliton Alumina Business Unit in London and Operating Company's in Brazil, Suriname and Australia. Activities include review and advice on refinery capital investment projects, technical audits, due diligence, techno-economic evaluation of green field bauxite alumina project, etc.

Development and use of plant simulation models to assist in the design and evaluation of brown field and green field alumina refinery projects.

Member of the process design team of the Worsley expansion projects responsible for modelling and generation of the BFD in the conceptual, pre-feasibility and feasibility stages.

Company representative in various joint venture technical operating committees.

Developed bauxite equalisation formulae which formed the basis of negotiations between refinery joint venture partners to allocate production cost related to difference in quality of bauxite supplied by the partners.

1989 - 1994; Research and Development, Billiton/Shell Research Arnhem, The Netherlands

In the position of Group Leader, responsible for the execution of projects as part of a R&D programme focused towards improving process efficiency, product quality and production capacity in Billiton co-owned alumina refineries located in Australia, Brazil, Suriname and Ireland.

1980 - 1989; Industrial Experience, Alcoa/Suralco, Suriname

During 9 years of employment in the process engineering department of the Suralco alumina refinery accountable for process development, optimisation and product quality control in the positions of process engineer, sr process engineer and process engineering supervisor successively. In the position of head of the technical department responsible for development and coaching of young process engineers and initiating projects to improve the overall performance of the refinery. Recommended process modifications and operating strategies and subsequent implementation in close co-operation with the laboratory, production and engineering departments has resulted in significant improvements in plant capacity, efficiency, product quality and cost.

PUBLICATIONS: AUTHOR/CO-AUTHOR OF VARIOUS PUBLICATIONS

1. Critical Oxalate Concentration (COC) Determination in Bayer Plant Liquors Using A Turbidity Method. Presented at the technical sessions of the 123rd TMS Annual Meeting, San Francisco, 1994.
2. Growth layers, I. Derivation of F-slices illustrated by sodium oxalate. co-author, Journal of crystal growth 149, (1995) 96 - 106
3. Growth layers, II. Comparison of theoretical and experimental morphology of sodium oxalate. co-author, Journal of crystal growth 149, (1995) 107 – 112
4. Impact of twinning on the morphology of gamma-Al(OH)₃ crystals. co-author, Journal of crystal growth 197 (1999) 244 – 253
5. Morphology, evolution and other characteristics of gibbsite crystals grown from pure and impure aqueous sodium aluminate solutions, Journal of Crystal Growth, 233 (2001), 567-582
6. Morphology prediction of gibbsite crystals-an explanation of the lozenge-shaped growth morphology, co-author, (2002a), 106, 1004-1012
7. Surface topography of gibbsite crystals grown from aqueous sodium aluminate solutions, co-author, Applied Surface Science 187, (2002) 218-234
8. Precipitation Modelling of Worsley Alumina, Alumina Quality Workshop Queensland, Australia, 2002.
9. Growth rate analysis of gibbsite single crystals growing from aqueous sodium aluminate solutions, co-author, Crystal Growth & Design 4(1): 185-198 JAN-FEB 2004
10. Alumina yield in the Bayer process; past, present and prospects. Paper presented at the TMS Annual Meeting, Orlando Florida, USA, February 2007.

Patent

Process for the Precipitation of Aluminium Trihydroxide from a Supersaturated Sodium Aluminate Solution, United States Patent Number 5,690,700, November, 1997

TEACHING EXPERIENCE

Part-time lecturer in hydrometallurgy and pyrometallurgy at the UNIVERSITY OF SURINAME, Department of Technology, in the period 1981 - 1988.