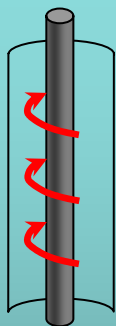


EMEW® ELECTROWINNING FOR PROFIT



EMEW®

PRECIOUS METAL

A Viable Alternative To Merrill-Crowe

Electrometals Technologies Limited

EMEW® is a remarkably efficient precious metal recovery technology that offers value added benefits over conventional recovery methods

- Simple, fully automated process
- Inherent high security
- Selective recovery in the presence of copper
- Re-locatable (modular) plant
- No de-aeration or ventilation required
- No zinc dust or other reagents required
- Reduced filtration required (tolerant to solids)
- Depletion down to a few ppm
- No chemical additions
- High purity product
- Clean, efficient and safe characteristics

Electrometals Technologies Limited

28 Commercial Drive
Ashmore
Queensland
Australia 4214

Phone: +61 (0) 7 5526 4663
Fax: +61 (0) 7 5527 0299
emew@electrometals.com.au
ACN 000 751 093

www.electrometals.com.au

EMEW® CHARACTERISTICS

The Merrill-Crowe process for the recovery of precious metals from mine-based leach solution is one of the oldest practiced hydrometallurgical techniques for removal of metal from cyanide solutions. It essentially entails the use of zinc dust to precipitate more noble metals from the target solution.

Although the base exchange chemistry of the process is relatively simple, the physical process is actually quite complex and requires strict control to maintain efficiency. Among various operating and cost factors, it requires purchase of fine zinc powder, removal of dissolved oxygen from the target solution and the use of additional reagents such as lead nitrate. Additional constraints include the efficient introduction and mixing of the zinc powder, high free cyanide levels to prevent 'blinding' of the zinc particles, crystal clear solution (<3ppm solids) and less than 1ppm of arsenic or antimony. Although the process is well established, in practice it is difficult to control and operate.

The EMEW® technology can achieve this process aim in a more efficient manner and most importantly, in a single step. The process is lower in capital and operating costs than Merrill-Crowe, offers a higher-grade end product and is extremely easy to operate. EMEW® also has high tolerance to changes in feed volume and target metal concentration.

EMEW® is not sensitive to interfering ions such as arsenic and antimony, has a very high tolerance to solids and therefore does not require the treatment steps found in the Merrill-Crowe process.

In the case of silver, Merrill-Crowe precipitate grades are typically 6-20% when a filter aid is used, or 40-70% when no filter aid is used. EMEW® grades are typically in excess of 90%, depending simply on the level of solids present in the target solution, thereby significantly reducing handling/drying and smelting costs. There is no requirement for acid removal of base metals prior to drying and smelting.



EMEW® is a global entity with affiliate sales & technical support offices in Australia, Brazil, Canada, Chile, Italy, Singapore and USA.

To locate a contact near you, visit our webpage:
www.electrometals.com.au

Electrometals Technologies Limited

Low Operating Costs

Typically gold & silver are recovered at an operating cost of 1 to 5 US cents per

EMEW® Advantage

- ◆ Robust Design
- ◆ No ventilation required
- ◆ Total gas capture
- ◆ Recovery in a single step
- ◆ Low depletion limits
- ◆ Small efficient plant
- ◆ No chemical additions
- ◆ Modular construction
- ◆ Low maintenance
- ◆ No moving parts

The EMEW® technology is capable of recovering many metals including Platinum, Gold, Silver, Nickel, Cobalt, Copper, Tin, Zinc and Cadmium. The broad range of applications to which EMEW® is ideally suited has resulted in EMEW® installations in North America, South America, Europe, Africa, Asia and Australia.

Cost Comparison - Low-Grade Silver Cyanide

Production = 3.25 million oz per year	M-CROWE	EMEW®	SAVING
CAPITAL COST	US\$	US\$	
Plant and equipment	680,000	575,000	15 %
Indirect costs	1,001,125	250,000	75 %
Total Capital Cost	1,681,125	825,000	51 %
OPERATING COST	US\$/annum	US\$/annum	
Process plant consumables	208,900	5,000	98 %
Maintenance & op supply allowance	47,500	30,000	37 %
Electrical power	35,100	25,000	29 %
Process plant manpower	135,150	100,000	26 %
Total Operating Cost	426,650	160,000	62 %

Electrometals Technologies Limited provides a full range of products and services to the metal recovery industry; from flowsheet development and process engineering to "total package" turnkey projects.



" EMEW cells are equipped with Dimensionally Stable Anodes (D.S.A.®) manufactured by De Nora Elettrodi Network. D.S.A.® is a registered trade mark of D.N.E. S.p.A." www.denora.com