

Title (en)
IMPROVED PROCESS FOR THE ELECTROLYTIC REDUCTION OF METALS AND AN IMPROVED PARTICULATE CARBON ELECTRODE FOR THE SAME.

Title (de)
VERFAHREN ZUR ELEKTROLYTISCHEN REDUKTION VON METALLEN SOWIE EINE ELEKTRODE AUS KOHLENSTOFFTEILCHEN.

Title (fr)
PROCEDE AMELIORE DE REDUCTION ELECTROLYTIQUE DE METAUX ET ELECTRODE AMELIOREE EN CARBONE PARTICULAIRE UTILISEE AVEC CE PROCEDE.

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Application
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Priority
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Abstract (en)
[origin: WO8300170A1] One aspect of the present invention concerns an improved process for the electrolytic reduction of a metal (20) from a metal compound and comprises the steps of providing a carbon cathode (18) within a container (12), dissolving the metal compound in a molten salt electrolyte solvent bath (22) which is disposed within the container (12), the molten electrolyte bath having a higher decomposition potential than the metal compound and having a lesser density than the reduced molten metal (20) and continuously providing a particulate, free-flowing, high purity, and highly conductive carbon material (24) to the molten bath (22) to serve as the anode, the particulate carbon material (24) having a lesser density than the molten bath (22) placing an electrical connection (30, 34) in contact with the particulate carbon anode material (24) and applying an electric current thereto, and collecting reduced metal (20) at the cathode (18). In another aspect of the present invention, a high purity and highly conductive, free-flowing particulate carbon material (24) having a density lower than that of an electrolytic bath (22) and floating thereon is provided to form the cell anode and in preferred embodiments is continuously provided to the cell (10) as the particulate carbonaceous anode material (24) is consumed.

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