

Title (en)
ALUMINIUM SMELTER COMPRISING ELECTRICAL CONDUCTORS MADE FROM A SUPERCONDUCTING MATERIAL

Title (de)
ALUMINIUMSCHMELZER MIT ELEKTRISCHEN LEITERN AUS EINEM SUPRALEITERMATERIAL

Title (fr)
ALUMINERIE COMPRENANT DES CONDUCTEURS ELECTRIQUES EN MATERIAU SUPRACONDUCTEUR

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Abstract (en)
[origin: WO2013007893A2] The invention relates to an aluminium smelter (1) comprising: (i) a series of electrolytic cells (2) intended for the production of aluminium, forming one or more rows (F); (ii) a power-feeding station (12) intended to supply the series of electrolytic cells (2) with electrolysis current (I1), said power-feeding station (12) comprising two poles; (iii) a main electric circuit (15) through which the electrolysis current (I1) flows, said circuit having two ends each connected to one of the poles of the power-feeding station (12); and (iv) at least one secondary electric circuit (16-17) comprising an electrical conductor made from a superconducting material, through which a current (I2, I3) flows, and extending alongside the row(s) (F) of electrolytic cells (2). The aluminium smelter is characterised in that the superconducting electrical conductor of the secondary electric circuit (16, 17) extends alongside the row(s) (F) of electrolytic cells (2) at least twice, thereby forming multiple turns in series.

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