

Title (en)  
PROCESSING OF WASTE INCINERATION ASHES

Title (de)  
AUFBEREITEN VON MÜLLVERBRENNUNGSASCHE

Title (fr)  
TRAITEMENT DE CENDRES ISSUES DE L'INCINÉRATION DE DÉCHETS

Publication  
**EP 2668445 B1 20211103 (DE)**

Application  
**EP 12707240 A 20120302**

Priority

- DE 102011013030 A 20110304
- EP 2012000937 W 20120302

Abstract (en)  
[origin: WO2012119739A2] The invention relates to a method for processing waste incineration ashes, in particular domestic waste incineration ashes, in which the ashes are classified into a plurality of fractions of different grain size distributions in a processing plant separated from the actual waste incineration process. The ashes are classified exclusively using a wet classification process in the processing plant, only wet classification processes that are gentle to the grains being used, and the wet classification process is performed in such a way that all of the ashes are classified into at least one fine fraction loaded with harmful substances and at least one coarse fraction that contains only a small amount of harmful substances or no harmful substances at all.

IPC 8 full level  
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Citation (examination)

- CH 676116 A5 19901214 - AMMANN U MASCHF AG
- DE 102005048959 A1 20070419 - SCHAUENBURG MASCH [DE]

Citation (opposition)

Opponent : Heros Sluiskil B.V.

- DE 102005048959 B4 20080410 - SCHAUENBURG MASCH [DE]
- CH 676116 A5 19901214 - AMMANN U MASCHF AG
- EP 1348905 A1 20031001 - MARTIN UMWELT & ENERGIETECH [DE], et al
- EP 2052780 A2 20090429 - SCHERER & KOHL GMBH & CO KG [DE]
- JP 2008264768 A 20081106 - KUBOTA KK
- WO 2012169882 A1 20121213 - BOSKALIS BV BAGGERMAATSCHAPPIJ [NL], et al
- WO 9828230 A1 19980702 - SCIENT ECOLOGY GROUP INC [US]
- US 5266494 A 19931130 - LAHODA EDWARD J [US], et al
- EP 0460828 A2 19911211 - WESTINGHOUSE ELECTRIC CORP [US]
- KLAUS LUCKERT, HANDBUCH DER MECHANISCHEN FEST-FLUSSIG-TRENNUNG, 2004, pages 50, 120, 226, ISBN: 3-8027-2196-9, Retrieved from the Internet <URL:https://books.google.nl/books?id=iA7ZjmWhb9MC&printsec=frontcover&hl=nl#v=onepage&q&f=false>
- REM PETER, PRUIJN MARC, VAN HOEK CAROLINE, VAN KOOY LAURENS: "A decision support system for wet soil cleaning", ENVIRONMENTAL POLLUTION, vol. 120, no. 3, 1 December 2002 (2002-12-01), GB , pages 717 - 723, XP055951861, ISSN: 0269-7491, DOI: 10.1016/S0269-7491(02)00172-0
- REM P.C., DE VRIES C., VAN KOOY L.A., BEVILACQUA P., REUTER M.A.: "The Amsterdam pilot on bottom ash", MINERALS ENGINEERING, vol. 17, no. 2, 1 February 2004 (2004-02-01), AMSTERDAM, NL , pages 363 - 365, XP055951867, ISSN: 0892-6875, DOI: 10.1016/j.mineng.2003.11.009
- XING WEIHONG: "Quality Improvement of Granular Secondary Raw Building Materials by Separation and Cleansing Techniques", THESIS TU DELFT, 12 May 2004 (2004-05-12), pages 1 - 145, XP055951871, Retrieved from the Internet <URL:http://resolver.tudelft.nl/uuid:a6d0a00b-9093-40a0-ae56-5ed481398d9a>
- KINNUNEN MAARIA KRISTIINA: "A Study on Physical Separation Techniques for Recovery of Metals from Municipal Solid Waste Incineration (MSWI) Bottom Ash", THESIS HELSINKI UNIVERSITY OF TECHNOLOGY, 23 November 2006 (2006-11-23), pages 1 - 170, XP055951877, Retrieved from the Internet <URL:https://aaltodoc.aalto.fi/bitstream/handle/123456789/19817/master\_kinnunen\_maaria%20kristiina\_2006.pdf?sequence=1&isAllowed=y>
- MUCHOVÁ, BAKKER, REM: "Precious Metals in Municipal Solid Waste Incineration Bottom Ash", WATER AIR SOIL POLLUTION: FOCUS, vol. 9, 2009, pages 107 - 116, XP019690539, Retrieved from the Internet <URL:https://doi.org/10.1007/s11267-008-9191-9>
- MUCHOVA LENKA: "WET PHYSICAL SEPARATION OF MSWI BOTTOM ASH", THESIS TU DELFT, 13 December 2010 (2010-12-13), pages 1 - 234, XP055951884

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DOCDB simple family (publication)  
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PL 12707240 T 20120302; PT 12707240 T 20120302; RS P20220078 A 20120302; SI 201231975 T 20120302; US 201214002382 A 20120302;  
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