



SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 20 85 37 47

Classification of the application (IPC):

C22C 38/38, C22C 38/26, C22C 38/28, C22C 38/06, C22C 38/02, C22C 38/00, C22C 38/20, C22C 38/22, C22C 38/24, C22C 38/58, C22C 38/50, C22C 38/48, C21D 9/46, C21D 8/02, C21D 6/00

Technical fields searched (IPC):

C22C, C21D

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	JP 2016196703 A (NIPPON STEEL & SUMITOMO METAL CORP) 24 November 2016 (2016-11-24) * the whole document *	1-3
A	JP S58197256 A (KAWASAKI STEEL CO) 16 November 1983 (1983-11-16) * the whole document *	1-3
A	JP 2017155300 A (NIPPON STEEL & SUMITOMO METAL CORP) 07 September 2017 (2017-09-07) * the whole document *	1-3
A	JP S5896853 A (SUMITOMO METAL IND) 09 June 1983 (1983-06-09) * the whole document *	1-3
A	WO 2019044928 A1 (JFE STEEL CORP [JP]) 07 March 2019 (2019-03-07) * claims 1-4 * * tables 1-3 * * paragraphs [0008] - [0055] *	1-3
A	WO 2018199145 A1 (JFE STEEL CORP [JP]) 01 November 2018 (2018-11-01) * claims 1-4 * * tables 1-2 * * paragraphs [0007] - [0050] *	1-3
A	WO 2019078538 A1 (POSCO [KR]) 25 April 2019 (2019-04-25) * claims 1-20 * * tables 1-3 * * paragraphs [0001] - [0210] *	1-3

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search The Hague	Date of completion of the search 08 April 2022	Examiner Vlassi, Eleni
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CATEGORY OF CITED DOCUMENTS

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Application number:
EP 20 85 37 47

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	JP 2016084529 A (NIPPON STEEL & SUMITOMO METAL CORP) 19 May 2016 (2016-05-19) * the whole document *	1-3

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search The Hague	Date of completion of the search 08 April 2022	Examiner Vlassi, Eleni
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ANNEX TO SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 20 85 37 47

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on 08-04-2022
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2016196703 A	24-11-2016	JP 6693217 B2 JP 2016196703 A	13-05-2020 24-11-2016
JP S58197256 A	16-11-1983	JP S61897 B2 JP S58197256 A	11-01-1986 16-11-1983
JP 2017155300 A	07-09-2017	JP 6728779 B2 JP 2017155300 A	22-07-2020 07-09-2017
JP S5896853 A	09-06-1983	JP S5896853 A JP S6145697 B2	09-06-1983 09-10-1986
WO 2019044928 A1	07-03-2019	BR 112020003351 A2 CN 111051553 A EP 3677700 A1 JP 6856129 B2 JP 7063364 B2 JP 2021036077 A JP WO2019044928 A1 KR 20200033901 A PH 12020550068 A1 SG 11202001418Y A WO 2019044928 A1	18-08-2020 21-04-2020 08-07-2020 07-04-2021 09-05-2022 04-03-2021 26-03-2020 30-03-2020 08-02-2021 30-03-2020 07-03-2019
WO 2018199145 A1	01-11-2018	BR 112019022088 A2 CN 110573642 A EP 3617337 A1 JP 6460292 B1 JP WO2018199145 A1 KR 20190134704 A PH 12019501995 A1 SG 11201907930Q A TW 201839152 A WO 2018199145 A1	05-05-2020 13-12-2019 04-03-2020 30-01-2019 27-06-2019 04-12-2019 01-06-2020 27-09-2019 01-11-2018 01-11-2018
WO2019078538 A1	25-04-2019	NONE	
JP 2016084529 A	19-05-2016	JP 6645103 B2 JP 2016084529 A	12-02-2020 19-05-2016