



## SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:  
EP 18 85 62 67

### Classification of the application (IPC):

C22C 38/42, C22C 38/48, C22C 38/44, C22C 38/58, C22C 38/02, C22C 38/04, C22C 38/06, C22C 38/00, C21D 9/46, C21D 8/02, C21D 8/10, C21D 9/08, C21D 6/00, C21D 6/02

### 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	WO 2014030607 A1 (NIPPON STEEL & SUMITOMO METAL CORP [JP]) 27 February 2014 (2014-02-27) * claims 1-4 * * paragraphs [0009] - [0059] * * tables 1-2 *	1-10
X	US 2003231976 A1 (ISEDA ATSURO [JP]) 18 December 2003 (2003-12-18) * claims 1-9 * * paragraph [0041] - paragraph [0119] * * tables 1-3 *	1-10
A	US 2017029911 A1 (DAN ETSUO [JP] ET AL) 02 February 2017 (2017-02-02) * claims 7-26 * * paragraph [0024] - paragraph [0114] * * tables 1-2 *	1-10
A	US 6338762 B1 (SATO NAOTO [JP] ET AL) 15 January 2002 (2002-01-15) * claims 1-15 * * tables 1-2 * * columns 4-9 *	1-10
A	JP 2011208269 A (NIPPON SEISEN CO LTD) 20 October 2011 (2011-10-20) * the whole document *	1-10
A	JP 2012255198 A (NIPPON STEEL & SUMITOMO METAL CORP) 27 December 2012 (2012-12-27) * the whole document *	1-10

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 21 January 2021	Examiner Vlassi, Eleni
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### CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone	P: intermediate document
Y: particularly relevant if combined with another document of the same category	T: theory or principle underlying the invention
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& : member of the same patent family, corresponding document	L: document cited for other reasons

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Application number:  
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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	US 2012141318 A1 (OSUKI TAKAHIRO [JP] ET AL) 07 June 2012 (2012-06-07) * claims 1-4 * * paragraph [0063] - paragraph [0149] * * tables 1-4 *	1-10
A	US 4960470 A (HONKURA YOSHINOBU [JP] ET AL) 02 October 1990 (1990-10-02) * claims 1-11 * * tables 1-3 * * columns 3-10 *	1-10

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

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A: technological background	E: earlier patent document, but published on, or after the filing date
O: non-written disclosure	D: document cited in the application
& : member of the same patent family, corresponding document	L: document cited for other reasons

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**ANNEX TO SUPPLEMENTARY EUROPEAN  
SEARCH REPORT**

 Application number:  
EP 18 85 62 67

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 21-01-2021  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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