



## SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:  
EP 17 84 66 45

### Classification of the application (IPC):

C22C 38/08, C21D 9/46, B21B 3/02, C21D 8/02, C22C 38/02, C22C 38/04,  
B21B 1/22

### Technical fields searched (IPC):

B21B, C21D, C22C

### DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
A	JP 2016135505 A (HITACHI METALS LTD) 28 July 2016 (2016-07-28) * the whole document *	1-10
A	JP 2001038403 A (NISSHIN STEEL CO LTD) 13 February 2001 (2001-02-13) * the whole document *	1-10
A	JP 2001179305 A (TOSHIBA CORP) 03 July 2001 (2001-07-03) * 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 28 November 2019	Examiner Martinavicius, A
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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                        |
| 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                                   |
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## ANNEX TO SUPPLEMENTARY EUROPEAN SEARCH REPORT

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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 28-11-2019  
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2016135505 A	28-07-2016	JP 2016135505 A KR 20160089856 A	28-07-2016 28-07-2016
JP 2001038403 A	13-02-2001	NONE	
JP 2001179305 A	03-07-2001	NONE	