

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference SP17-227	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2018/048229	International filing date (<i>day/month/year</i>) 28 August 2018 (28-08-2018)	(Earliest) Priority Date (<i>day/month/year</i>) 28 August 2017 (28-08-2017)
Applicant CORNING INCORPORATED		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

- the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box No. II)

3. **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- the text is approved as submitted by the applicant
 the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- the text is approved as submitted by the applicant
 the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1A
 as suggested by the applicant
 as selected by this Authority, because the applicant failed to suggest a figure
 as selected by this Authority, because this figure better characterizes the invention
- b. none of the figures is to be published with the abstract

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

Honeycomb bodies, honeycomb structures and extrusion dies, including a transition structural component. A honeycomb structure (100) includes a plurality of interconnected webs (106) defining a plurality of cell channels (108) in a honeycomb matrix (109) having a central axis (110) orthogonal to its transverse cross-section. Radial webs (116) diverge outwardly from the central axis (110). Radial webs (116) include a first radial web (150) and a second radial web (152). Tangential webs (120) are arranged concentrically with respect to the central axis (110), wherein at least one of the tangential webs (120) is a tangential transition web (142). At least one transition structural component (140) is located radially inward from the tangential transition web (124) and includes a first inclined web (144) having a first end (144A) coupled to the first radial web (150) and a second inclined web (146) having a first end (146A) coupled to the second radial web (152). Extrusion dies configured to make the honeycomb structures are provided, as are other aspects.

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International application No
PCT/US2018/048229

A. CLASSIFICATION OF SUBJECT MATTER
 INV. F01N3/022 F01N3/28 B28B3/26 B01D46/24 B01J35/04
 ADD.
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 F01N B01D B28B B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/231533 A1 (ANIOLEK KENNETH WILLIAM [US] ET AL) 4 October 2007 (2007-10-04) paragraphs [0022], [0024] - [0027], [0032] figures 3,4,7	1,2,12, 13,16,17
X	WO 2017/040138 A1 (CORNING INC [US]) 9 March 2017 (2017-03-09) figures 8a-8c paragraphs [0024], [0068]	1,2,12, 13,16, 17,20
X	EP 0 463 654 A2 (CORNING INC [US]) 2 January 1992 (1992-01-02) figures 1-5 column 3, line 9 - column 5, line 22	1,2,12, 13,16, 17,19,20
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 29 October 2018	Date of mailing of the international search report 09/11/2018
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Ikas, Gerhard
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2018/048229

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>JP H06 23215 A (ISUZU MOTORS LTD) 1 February 1994 (1994-02-01)</p> <p>figure 1 abstract paragraphs [0010], [0011]</p> <p>-----</p>	<p>1,2,12, 13,16, 17,19</p>
A	<p>WO 2011/110780 A1 (TECHNOLOGIES AVANCEES ET MEMBRANES IND [FR]; LESCOCHE PHILIPPE [FR]) 15 September 2011 (2011-09-15) figures 1-3 page 1, line 12 - line 20</p> <p>-----</p>	<p>1-20</p>
A	<p>EP 2 835 165 A1 (SUMITOMO CHEMICAL CO [JP]) 11 February 2015 (2015-02-11) figures 8-12 paragraph [0065] - paragraph [0098]</p> <p>-----</p>	<p>1-20</p>

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2018/048229

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