

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/JP2019/049134

**A. CLASSIFICATION OF SUBJECT MATTER**  
 C8L 9/00(2006.01)i; B60C 1/00(2006.01)i; C08K 3/013(2018.01)i; C08K 5/5419(2006.01)i; C08L 7/00(2006.01)i  
 FI: C08L9/00; C08K3/013; C08K5/5419; C08L7/00; B60C1/00 A  
 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)  
 C08L1/00-101/14; B60C1/00-19/12; C08K3/00-13/08

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

Published examined utility model applications of Japan	1922-1996
Published unexamined utility model applications of Japan	1971-2020
Registered utility model specifications of Japan	1996-2020
Published registered utility model applications of Japan	1994-2020

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2016-044201 A (SUMITOMO RUBBER INDUSTRIES, LTD.) 04.04.2016 (2016-04-04) claims 1, 9, 13, paragraphs [0002]-[0008], [0089], [0107], [0114]-[0152], [0155]-[0156], table 3, examples 2-1 to 2-4	1-4
A	claims 1, 9, 13, paragraphs [0002]-[0008], [0089], [0107], [0114]-[0152], [0155]-[0156], table 3, examples 2-1 to 2-4	5
A	JP 2015-218255 A (THE YOKOHAMA RUBBER CO., LTD.) 07.12.2015 (2015-12-07) entire text	1-5
A	JP 2011-503308 A (SOCIETE DE TECHNOLOGIE MICHELIN) 27.01.2011 (2011-01-27) entire text	1-5
A	JP 2018-048294 A (KUMHO TIRE CO., INC.) 29.03.2018 (2018-03-29) entire text	1-5

Further documents are listed in the continuation of Box C.       See patent family annex.

* Special categories of cited documents:	“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
“A” document defining the general state of the art which is not considered to be of particular relevance	“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
“E” earlier application or patent but published on or after the international filing date	“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
“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)	“&” document member of the same patent family
“O” document referring to an oral disclosure, use, exhibition or other means	
“P” document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 03 March 2020 (03.03.2020)	Date of mailing of the international search report 17 March 2020 (17.03.2020)
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Name and mailing address of the ISA/ Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer  Telephone No.
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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2015-054875 A (SUMITOMO RUBBER INDUSTRIES, LTD.) 23.03.2015 (2015-03-23) entire text	1-5
A	WO 2018/002996 A1 (THE YOKOHAMA RUBBER CO., LTD.) 04.01.2018 (2018-01-04) entire text	1-5
A	JP 2014-205842 A (BRIDGESTONE CORPORATION) 30.10. 2014 (2014-10-30) entire text	1-5
A	JP 2006-097024 A (THE GOODYEAR TIRE & RUBBER CO.) 13.04.2006 (2006-04-13) entire text	1-5
A	JP 2013-018309 A (BRIDGESTONE CORPORATION) 31.01.2013 (2013-01-31) entire text	1-5
P, A	WO 2019/188804 A1 (THE YOKOHAMA RUBBER CO., LTD.) 03.10.2019 (2019-10-03) entire text	1-5

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application no. PCT/JP2019/049130
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Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
JP 2016-044201 A	04 Apr. 2016	(Family: none)	
JP 2015-218255 A	07 Dec. 2015	(Family: none)	
JP 2011-503308 A	27 Jan. 2011	JP 5615714 B2 US 2011/0009547 A1 entire text WO 2009/062733 A2 EP 2212379 A2 FR 2923331 A1 CN 101855287 A	
JP 2018-048294 A	29 Mar. 2018	US 2018/0079394 A1 entire text EP 3299413 A1 KR 10-2018-0032292 A CN 107868293 A	
JP 2015-054875 A	23 Mar. 2015	US 2016/0194434 A1 entire text WO 2015/037420 A1 EP 3045494 A1	
WO 2018/002995 A1	04 Jan. 2018	US 2019;0243990 A1 entire text WO 2018/003526 A1 KR 10-2019-0002723 A CN 109415543 A	
JP 2014-205842 A	30 Oct. 2014	(Family: none)	
JP 2006-097024 A	13 Apr. 2006	US 2006/0063878 A1 entire text EP 1640182 A1 CN 1751901 A	
JP 2013-018309 A	31 Jan. 2013	(Family: none)	
WO 2019/188804 A1	03 Oct. 2019	JP 2019-167052 A	