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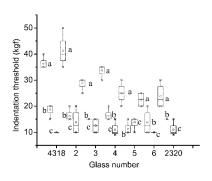
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FIG. 2



(57) Abstract: Silicate glasses that are fictivated and fast cooled and have high levels of intrinsic or "native" damage resistance. When ion exchanged, the silicate glasses described herein have a Vickers crack initiation threshold of at least 15 kgf and, in some embodiments, at least about 25 kgf.





INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 2013/181134 A1 (CORNING INC [US]; DEJNEKA MATTHEW JOHN [US]; ELLISON ADAM JAMES [US];) 5 December 2013 (2013-12-05) paragraph [0021] paragraph [0026] - paragraph [0030] examples 9-12	1-36
X	US 2013/004758 A1 (DEJNEKA MATTHEW JOHN [US] ET AL) 3 January 2013 (2013-01-03) paragraph [0003] paragraph [0023] paragraph [0037] paragraph [0041] paragraph [0042] - paragraph [0045] examples 53,86,150,179,203,206,251,292-297	1-36

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C(Continua	tion). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010/291353 A1 (DEJNEKA MATTHEW JOHN [US] ET AL) 18 November 2010 (2010-11-18) paragraph [0019] - paragraph [0021] paragraph [0024] paragraph [0029] - paragraph [0030] paragraph [0045] examples f,i	1-36
X	US 2009/220761 A1 (DEJNEKA MATTHEW JOHN [US] ET AL) 3 September 2009 (2009-09-03) paragraph [0002] paragraph [0037] - paragraph [0038] paragraph [0041] - paragraph [0054] example 6	1-36
Α	US 2011/045961 A1 (DEJNEKA MATTHEW JOHN [US] ET AL) 24 February 2011 (2011-02-24) the whole document	1-36
A	US 2011/092354 A1 (DURAN CARLOS [CA] ET AL) 21 April 2011 (2011-04-21) the whole document	1-36

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2014/013263

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2013181134 A1	05-12-2013	TW 201400430 A US 2014186632 A1 US 2014227523 A1 WO 2013181134 A1	01-01-2014 03-07-2014 14-08-2014 05-12-2013
US 2013004758 A1	03-01-2013	CN 103648996 A EP 2726424 A1 KR 20140058535 A TW 201307235 A US 2013004758 A1 WO 2013006301 A1	19-03-2014 07-05-2014 14-05-2014 16-02-2013 03-01-2013 10-01-2013
US 2010291353 A1	18-11-2010	CN 102762508 A EP 2467340 A2 JP 2013502371 A KR 20120089472 A TW 201127771 A US 2010291353 A1 US 2011201490 A1 WO 2011022661 A2	31-10-2012 27-06-2012 24-01-2013 10-08-2012 16-08-2011 18-11-2010 18-08-2011 24-02-2011
US 2009220761 A1	03-09-2009	TW 200948738 A US 2009220761 A1 WO 2009108339 A2	01-12-2009 03-09-2009 03-09-2009
US 2011045961 A1	24-02-2011	CN 102741176 A EP 2467339 A2 JP 2013502370 A KR 20120066022 A TW 201119956 A US 2011045961 A1 WO 2011022639 A2	17-10-2012 27-06-2012 24-01-2013 21-06-2012 16-06-2011 24-02-2011 24-02-2011
US 2011092354 A1	21-04-2011	DE 102010042745 A1 JP 2011088815 A US 2011092354 A1	28-04-2011 06-05-2011 21-04-2011