

Title (en)
STAINLESS STEEL MATERIAL FOR DIFFUSION BONDING

Title (de)
EDELSTAHL MATERIAL ZUM DIFFUSIONSSCHWEISSEN

Title (fr)
MATÉRIAU EN ACIER INOXYDABLE DESTINÉ À LA LIAISON PAR DIFFUSION

Publication
EP 3216888 A4 20180530 (EN)

Application
EP 15857850 A 20151016

Priority
• JP 2014225576 A 20141105
• JP 2015079342 W 20151016

Abstract (en)
[origin: EP3216888A1] Provided is a stainless steel material suitable for diffusion bonded moldings in which diffusion bondability has been further improved without being affected by the extent of surface roughness. The present invention is a stainless steel material for diffusion bonding in which the metal structure before diffusion bonding has a multi-phase structure obtained from two or more of a ferrite phase, a martensite phase and an austenite phase, wherein: the mean crystal grain diameter in the multi-phase structure is not more than 20 μm ; α_{max} represented by formula (a) is 10-90; and creep elongation when a 1.0 MPa load is applied at 1000°C for 0.5 h is at least 0.2%. $\alpha_{\text{max}} = 420 \text{ C} \text{ \#} \text{ 11.5 Si} + 7 \text{ Mn} + 23 \text{ Ni} \text{ \#} \text{ 11.5 Cr} \text{ \#} \text{ 12 Mo} + 9 \text{ Cu} \text{ \#} \text{ 49 Ti} \text{ \#} \text{ 47 Nb} \text{ \#} \text{ 52 Al} + 470 \text{ N} + 189$ The element notations in formula (a) represent the contents (mass%) of the respective elements.

IPC 8 full level
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Citation (search report)
• [X] EP 1396552 A1 20040310 - NISSHIN STEEL CO LTD [JP]
• [X] JP 2003089851 A 20030328 - NISSHIN STEEL CO LTD
• [X] JP 2004131743 A 20040430 - NISSHIN STEEL CO LTD
• See references of WO 2016072244A1

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US11566301B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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