

Title (en)  
DUPLEX STAINLESS STEEL

Title (de)  
DUPLEXEDELSTAHL

Title (fr)  
ACIER INOXYDABLE DUPLEX

Publication  
**EP 4310214 A1 20240124 (EN)**

Application  
**EP 22771249 A 20220309**

Priority  
• JP 2021040916 A 20210315  
• JP 2022010351 W 20220309

Abstract (en)  
There is provided a duplex stainless steel including a chemical composition consisting of, in mass%, C: 0.10% or less, Si: 3.0% or less, Mn: 8.0% or less, P: 0.040% or less, S: 0.020% or less, Cr: 20.0 to 38.0%, Ni: 3.00 to 12.00%, Mo: 1.0 to 6.5%, Cu: 3.0% or less, N: 0.200 to 0.700%, Al: 0 to 1.0%, Sn: 0 to 1.0%, W: 0 to 6.0%, Co: 0 to 3.0%, Nb: 0 to 0.50%, Ti: 0 to 1.5%, V: 0 to 1.0%, Zr: 0 to 0.50%, Ta: 0 to 0.100%, B: 0 to 0.100%, Ca: 0 to 0.50%, Mg: 0 to 0.50%, and REM: 0 to 0.10%, with the balance: Fe and impurities, wherein PRE is 41.0 or more, Creq/Nieq is 2.360 to 2.530, an average Md value is 0.9140 or less, and an area fraction of a  $\sigma$  phase is 2.0% or less.

IPC 8 full level  
**C22C 38/00** (2006.01); **C21D 8/06** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP)  
**C21D 1/26** (2013.01); **C21D 6/004** (2013.01); **C21D 6/005** (2013.01); **C21D 7/13** (2013.01); **C21D 8/005** (2013.01); **C21D 8/065** (2013.01); **C21D 9/0075** (2013.01); **C21D 9/525** (2013.01); **C22C 38/001** (2013.01); **C22C 38/002** (2013.01); **C22C 38/008** (2013.01); **C22C 38/02** (2013.01); **C22C 38/04** (2013.01); **C22C 38/06** (2013.01); **C22C 38/42** (2013.01); **C22C 38/44** (2013.01); **C22C 38/46** (2013.01); **C22C 38/48** (2013.01); **C22C 38/50** (2013.01); **C22C 38/52** (2013.01); **C22C 38/54** (2013.01); **C22C 38/58** (2013.01); **C21D 2211/001** (2013.01); **C21D 2211/005** (2013.01)

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

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4310214 A1 20240124**; **EP 4310214 A4 20240904**; CN 116997670 A 20231103; JP WO2022196498 A1 20220922; WO 2022196498 A1 20220922

DOCDB simple family (application)  
**EP 22771249 A 20220309**; CN 202280021821 A 20220309; JP 2022010351 W 20220309; JP 2023507031 A 20220309