

Title (en)

CONVERSION COATING COMPOSITION FOR COLOURED LAYERS ON ALUMINIUM

Title (de)

KONVERSIONSBESCHICHTUNGSZUSAMMENSETZUNG FÜR FARBIGE SCHICHTEN AUF ALUMINIUM

Title (fr)

COMPOSITION DE REVÊTEMENT DE CONVERSION POUR COUCHES COLORÉES SUR DE L'ALUMINIUM

Publication

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Application

EP 23150086 A 20230103

Priority

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Abstract (en)

The present disclosure is directed to an aqueous conversion coating composition for the treatment of aluminium or aluminium alloys, said composition having a pH of less than 3 and comprising:i) at least one water-soluble polyphosphonic acid or a water-soluble salt thereof, wherein said polyphosphonic acid has the general formula (I):in which:n is at least 2; and,Z is a connecting organic moiety having an effective valency of n, said polyphosphonic acid being characterized in that at least two phosphonic groups are separated by a C₁-C₂ alkylene bridge which may be optionally interrupted by one or more heretoatoms selected from N or O;ii) at least one mineral acid;iii) at least one water-soluble or water-dispersible fluoroacid or a salt thereof, wherein said fluoroacid is defined by the following general empirical formula (II):
$$\text{H}_{p-q-r-s}\text{T}_q\text{F}_r\text{O}_s$$

(II)wherein:each of q and r represents an integer from 1 to 10;each of p and s represents an integer from 0 to 10; and,T represents an element selected from the group consisting of Ti, Zr, Hf, Si, Sn, Al, Ge, and B; and,iv) at least one tungstate salt,wherein said composition is characterized in that it is substantially free of chromium (Cr) compounds.

IPC 8 full level

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CPC (source: EP)

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Citation (applicant)

- US 2796370 A 19570618 - OSTRANDER CHARLES W, et al
- US 4578122 A 19860325 - CROTTY DAVID E [US]
- US 10156016 B2 20181218 - KRAMER KIRK [US], et al
- US 5304257 A 19940419 - PEARLSTEIN FRED [US], et al
- US 7029541 B2 20060418 - DIADDARIO JR LEONARD L [US], et al
- US 5468307 A 19951121 - SCHRIEVER MATTHIAS P [US]
- US 6328874 B1 20011211 - KINLEN PATRICK J [US], et al
- US 6419731 B2 20020716 - INBE TOSHIO [JP], et al
- US 9476125 B2 20161025 - CANO-IRANZO FRANCISCO JESUS [ES], et al
- US 5743971 A 19980428 - INOUE MANABU [JP], et al
- US 5855695 A 19990105 - MCMILLEN MARK W [US], et al
- CAS, no. 38531-18-9

Citation (search report)

- [XAI] JP 2011068996 A 20110407 - NIHON PARKERIZING
- [XA] WO 0112341 A1 20010222 - HENKEL CORP [US], et al
- [XA] US 2017361571 A1 20171221 - ISHIZUKA KIYOKAZU [JP], et al
- [XA] US 2009214883 A1 20090827 - DE ZEEUW ARD [DE], et al
- [XA] WO 0148264 A1 20010705 - HENKEL CORP [US], et al

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