

Title (en)

6XXX ALLOY HIGH STRENGTH EXTRUDED PRODUCTS WITH HIGH PROCESSABILITY

Title (de)

6XXX-LEGIERUNG EXTRUDIERTER PRODUKTE MIT HOHER STÄRKE UND HOHER VERFAHRENSFÄHIGKEIT

Title (fr)

PRODUITS EXTRUDÉS EN ALLIAGE 6XXX À HAUTE RÉSISTANCE À HAUTE APTITUDE A LA TRANSFORMATION

Publication

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Application

EP 21175802 A 20210525

Priority

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Abstract (en)

The invention concerns an improved alloy to obtain AA6xxx alloy extrusions with high strength, typically having an ultimate tensile strength higher than 390 MPa, and high processability, in particular with a high productivity, as well as high surface quality and high corrosion resistance. In particular, the alloy of the invention contains, in wt.%, Si 0.6 - 0.9, Mg 0.55- 0.76, Cu 0.65 - 0.9, Mn 0.4 - 0.7, Cr 0.05 - 0.2, Zr 0.10 - 0.19, Fe 0.05 - 0.5, Zn \leq 1.0, V \leq 0.10, Ti \leq 0.10, other elements < 0.05 each and < 0.15 total, rest aluminium. The extruded profiles of the invention are advantageously used as automotive components such as crash boxes, a bumpers, a side impact beams or side sills.

IPC 8 full level

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CPC (source: EP)

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Citation (applicant)

- WO 2015086116 A1 20150618 - CONSTELLIUM VALAIS SA AG LTD [CH]
- US 2011155291 A1 20110630 - SANO HIDEO [US], et al
- WO 2018073389 A1 20180426 - CONSTELLIUM SINGEN GMBH [DE]
- FR 2360684 A1 19780303 - ALUMINUM CO OF AMERICA [US]
- US 2004084119 A1 20040506 - SANO HIDEO [JP], et al
- WO 2016202810 A1 20161222 - CONSTELLIUM SINGEN GMBH [DE]
- WO 2019206826 A1 20191031 - CONSTELLIUM SINGEN GMBH [DE]
- CN 103131904 A 20130605 - FOSHAN SANSUI FENGLU ALUMINIUM CO LTD, et al

Citation (search report)

- [X] JP 2000054049 A 20000222 - MITSUBISHI ALUMINIUM
- [XD] WO 2016202810 A1 20161222 - CONSTELLIUM SINGEN GMBH [DE]
- [X] EP 3312301 A1 20180425 - CONSTELLIUM SINGEN GMBH [DE]
- [A] JP H06212336 A 19940802 - MITSUBISHI ALUMINIUM

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