

Title (en)
PRODUCTION SYSTEM OF WELDABLE AND STAINLESS TUBULAR STRUCTURES WITH HIGH MECHANICAL STRENGTH AND PRODUCT OBTAINED THEREFROM

Title (de)
SYSTEM ZUR HERSTELLUNG SCHWEISSBARER UND ROSTFREIER ROHRKONSTRUKTIONEN MIT HOHER MECHANISCHER FESTIGKEIT UND AUF DIESE WEISE HERGESTELLTES PRODUKT

Title (fr)
SYSTÈME DE PRODUCTION DE STRUCTURES TUBULAIRES INOXYDABLES ET SOUDABLES AVEC HAUTE RÉSISTANCE MÉCANIQUE ET PRODUIT OBTENU ASSOCIÉ

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EP 1996738 B1 20200401 (EN)

Application
EP 07736718 A 20070323

Priority
• IT 2007000214 W 20070323
• IT MN20060021 A 20060323

Abstract (en)
[origin: WO2007108038A2] A production system is described of weldable and stainless tubular structures with high mechanical strength and related obtained product, particularly indicated for making tubular elements in cold-drawn stainless steel, workable at different thicknesses and shapes, provided with high performances in terms of mechanical characteristics and weldability, for the construction of light and ultralight structural frames destined for a dynamic use. The production system comprises a creation step of a tip for making the end of the tube smaller, so that it can pass through the drawing equipment and be coupled for drawing, a step of annealing heat treatment for softening the material and making it deformable. The system provides for a mechanical test for evaluating the mechanical characteristics of the material and a metallography for viewing the structure of the material and evaluating if it comes within pre-established parameters for the drawing. Following these steps is a step of chemical preparation of the surfaces, for lubricating the contact surfaces of the tube with the drawing equipment and for avoiding seizures during the drawing, which permanently deform the material. The preceding steps are repeated until the desired thickness of the tube is reached. Once the preceding cycle is completed, a step of final heat treatment follows for reforming the structure of the steel which was deformed and for fixing the desired final characteristics. Finally, a step of straightening is carried out for make the drawn and furnace- treated tube rectilinear, as is a step of passivation for inducing a compact oxide patina in the steel which ensures its resistance to corrosion. The cutting, control and packaging operations follow.

IPC 8 full level
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