

Title (en)
METHOD FOR PRODUCING HARDENED STRUCTURAL ELEMENTS

Title (de)
VERFAHREN ZUM ERZEUGEN GEHÄRTETER BAUTEILE

Title (fr)
PROCÉDÉ POUR PRODUIRE DES ÉLÉMENTS DE CONSTRUCTION DURCIS POURVUS DE ZONES DE DIFFÉRENTES DURETÉS ET/OU DUCTILITÉS

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Abstract (en)
[origin: WO2012085247A2] The invention relates to a method for producing a hardened structural steel element comprising a zinc or zinc alloy coating. According to the method, a blank is stamped out from sheet metal that is coated with the zinc or zinc alloy, the stamped-out blank is heated to a temperature \geq Ac3 and optionally held at this temperature for a predetermined time to allow the formation of austenite, and the heated blank is then transferred to a forming tool, is formed in the forming tool and cooled in the forming tool at a rate above the critical quenching rate, thereby being hardened, and the steel material is adjusted to delay conversion such that the steel material is quench-hardened by the conversion of austenite to martensite at a forming temperature in the range of 450°C to 700°C, an active cooling taking place after the conversion and prior to the forming step, the blank or sections of the blank being cooled at a cooling rate of $>15\text{K/s}$.

IPC 8 full level
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