Title (en)

METHOD FOR PRODUCING HARDENED COMPONENTS WITH REGIONS OF DIFFERENT HARDNESS AND/OR DUCTILITY

Title (de)

VERFAHREN ZUM ERZEUGEN GEHÄRTETER BAUTEILE MIT BEREICHEN UNTERSCHIEDLICHER HÄRTE UND/ODER DUKTILITÄT

Title (fr)

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

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Application

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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 =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 >15K/s.

IPC 8 full level

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CPC (source: EP KR US)

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