

A method for producing a high strength steel piece having desired mechanical properties, obtainable by a reference heat treatment comprising a first reference treatment and a final reference treatment comprising at least an overaging. The method comprising a step of heat treating on an equipment comprising at least an overaging means for which it is possible to set at least one operating point, the final treatment comprising an overaging for which it is possible to calculate two final treatment parameters OAP1 and OAP2 depending on an operating point of the overaging means. A minimum OAP1 min and a maximum OAP2 max final treatment parameters are determined in order to obtain the desired properties, at least one operating points of the overaging section means is determined such that  $OAP1 \geq OAP1 \text{ min}$  and  $OAP2 \leq OAP2 \text{ max}$ . The piece is heat treated accordingly. The parameters are with  $T(t)$  the temperature at time  $t$  Formula (I)