

Title (en)
NON-TEMPERED STEEL SOFT NITRIDED COMPONENT

Title (de)
WEICHNITRIERTES BAUTEIL AUS UNVERGÜTETEM STAHL

Title (fr)
COMPOSANT NITRURE SOUPLE EN ACIER NON TREMPÉ

Publication
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Application
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Abstract (en)
Soft-nitrided parts wherein a ferrite grain in the diffusion layer does not have a 3rd nitride of more than 20µm in the longitudinal axis, which is made of a non-heat treated steel that has a chemical composition of, by mass %, C:0.30 to 0.45%, Si:0.1 to 0.5%, Mn:0.6 to 1.0%, Ti:0.005 to 0.1%, N:0.010 to 0.030%, and the balance Fe and impurities, and that has a mixed microstructure of bainite and ferrite whose bainite fraction is 5 to 90% or a mixed microstructure of bainite, ferrite and pearlite whose bainite fraction is 5 to 90%. The non-heat treated steel may contain one or more elements of 0.001 to 0.1% of Nb, 0.01 to 1.0% of Mo, 0.01 to 1.0% of Cu, 0.01 to 1.0% of Ni and 0.001 to 0.005% of B, 0.01 to 0.1 % of S and 0.0001 to 0.005% of Ca. This invention provides machinery parts, based on this non-heat treated steel for soft-nitriding, which has further improved high fatigue strength and excellent bending straightening property after soft-nitrided even omitting thermal refining.

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