Title (en)
METHOD OF DETERMINING THE NEUTRAL TEMPERATURE OF WELDED TRACKS

Title (de)
VERFAHREN ZUR BESTIMMUNG DER NEUTRALEN TEMPERATUR VON LÜCKENFREIEN GLEISEN

Title (fr)
PROCEDE POUR DETERMINER LA TEMPERATURE NEUTRE DE RAILS SOUDES

Publication
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Application
**EP 96914355 A 19960509**

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Abstract (en)
[origin: WO9635947A1] The invention concerns a method of determining the longitudinal load on supports subjected to longitudinal loads such as railway tracks, in particular for determining the neutral temperature of railway tracks. The support is excited longitudinally in an acoustic frequency range and the magnetic Barkhausen noise value at the surface of the excited region is measured; according to the invention, measurements of the magnetic Barkhausen noise are taken for different longitudinal stress states and used to plot the calibration curve of the magnetic Barkhausen noise as a function of longitudinal stress, the Barkhausen noise being measured at a minimum of three points on the face of the inlaid support, and the calibration curve is used to determine the longitudinal load on the cross-section in question using (where necessary weighted) averaging. The neutral temperature is then determined where necessary on the basis of the longitudinal load and taking into account the modulus of elasticity, dilatation factor and temperature of the railway track. The invention also concerns a device for determining the longitudinal load on supports subjected to longitudinal loads such as railway tracks, in particular for determining the neutral temperature of railway tracks. The said device comprises an acoustic frequency excitation unit, a magnetic sensor which is brought into magnetic contact with the support, a frequency-selective measurement unit connected to the magnetic sensor and sensitive to frequencies higher than that of the excitation unit, and a processor which calculates values on the basis of the measured values. According to the invention, an air gap gauge (403) which determines the distance between the sensor (404) and the support surface is allocated to the magnetic sensor. Said gauge is linked to the input of the processor (406) which adjusts the measured Barkhausen noise value in accordance with the air gap.

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