

## Superconductivity in the Nb<sub>5</sub>Si<sub>2</sub>B compound

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We present the superconducting properties of the Nb<sub>5</sub>Si<sub>2</sub>B compound based on magnetization, electrical resistivity, specific heat and thermopower data. The superconductivity in Nb<sub>5</sub>Si<sub>2</sub>B is of the second type with superconducting transition temperature  $T_c = 8.5$  K. The upper critical field ( $\mu_0 H_{c2}$ ) exhibits linear dependence on temperature and reaches a value of 2.4 T in zero temperature. The zero-temperature value of the lower critical field ( $\mu_0 H_{c1}$ ) is equal to 55.6 Oe. From the values of the critical fields other basic parameters of this superconductor were estimated: the coherence length  $\xi = 115 \text{ \AA}$ , the penetration depth  $\lambda = 3066 \text{ \AA}$  and the Ginzburg-Landau coefficient  $\kappa = 26.6$ . The thermoelectric power  $S(T)$  shows a linear temperature dependence in the 36-300 K range, with the negative value of  $S(T)$  indicating electrons as the charge carriers in this temperature range. In temperatures 2-8 K thermoelectric power exhibits a positive value with  $S_{max} = 0.73 \text{ \mu V/K}$  in  $T = 2$  K.