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## Evaluation of the Influence of Dispersion of Pearlite on the Fatigue of Carbon Steel

**Summary.** It is shown that the slope of a tangent to the fatigue curve can be used to analyze the effect of dispersion of pearlite on the fatigue strength of carbon steel. For a constant thickness of the ferrite-pearlite layer, we established an inversely proportional relationship between the indicated parameter and the density of accumulated dislocations. We also estimated the mechanism of influence of the dispersion of pearlite on the transition from low- to high-cycle fatigue of carbon steel.

**Keywords:** carbon steel, pearlite dispersion, dislocations, endurance

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