

FORECASTING THE ENDURANCE LIMIT OF SHOT-STRENGTHENED PARTS WITH A CONCENTRATOR BY RESIDUAL STRESSES OF A CONTROL SPECIMEN

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Additional stresses after making a semicircular cut are calculated for a smooth cylindrical part with a hole in it for the case of advance surface plastic strain. It is found that, residual stresses of a smooth part being the same, additional stresses in the least section are equal to those of a solid part whose cross-section is equal to the double wall thickness.

It is established that residual stresses in strengthened parts with concentrators can be determined by the residual stresses of control specimens processed simultaneously with the parts.

Advance surface plastic strain, stress concentration degree, endurance limit forecasting.

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