

Tymchik G., Filippova M., Demchenko M. Analysis Of Acoustic Diagnostics Errors Of Stress State For Shaped Profiles Of Metal Structures

**Abstract.** The article is devoted to analysis of the errors that occur when acoustic diagnostics of stress state for shaped profiles of metal structures. The analysis of methods for acoustic diagnostics of stressed state of shaped profiles was conducted using mirror-shadow method and areas, causing the occurrence of errors, were revealed. The analysis of tool, methodical and subjective errors that accompany acoustic diagnostics of stress state of shaped profile allowed offering recommendations for their reduction and increasing the reliability of diagnostics results. The necessity of reducing the total error for determining the stress state caused by factors accompanying acoustic diagnostics of shaped profiles was shown. Application of automation during the acoustic diagnostics of stress state for shaped profiles of metal structures was proposed. This will significantly increase the reliability of the data by reducing human intervention in the process of measurement and processing results. Technical and methodological solutions were proposed that will reduce the impact of the total error on the result of acoustic diagnostics of stress state for shaped profiles using the mirror-shadow scanning method.

**Keywords:** total error, acoustic diagnostics, stress state, shaped profiles.

[Full article](#)