

On Compliance with Regulatory Standards for Cutting Quality in the Production of Welded Joints

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Citation: Anakhov S.V., Guzanov B.N., Matushkin A.V., Michurov N.S. On Compliance with Regulatory Standards for Cutting Quality in the Production of Welded Joints, *Kompetentnost' / Competency (Russia)*, 2024, no. 5, pp. 56–62. DOI: 10.24412/1993-8780-2024-5-56-62

key words

plasma torch, cutting quality, efficiency, electron beam technologies

A review of regulatory requirements and a comparative analysis of modern high-energy metal cutting technologies — laser, plasma, water jet and a number of related methods, justifying the possibility of their use in the production of welded joints, is presented. The results of an experimental study of water jet, laser and plasma cutting technologies that ensure high cutting quality are shown. Based on the results of qualitative and quantitative analysis of individual cutting quality parameters, a conclusion was made about the best quality achieved when cutting with the plasma torch developed in the author's team, and the possibility of plasma cutting for welding without subsequent machining. It is also concluded that by now the technologies of high-energy impact on metals have a wide range of technological capabilities that allow solving most of the tasks that require high-performance, high-quality and efficient metal cutting.

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(499) 175 42 91

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