

Steel surface modification with plasma spraying electrothermal installation using a liquid electrode

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Abstract

© Published under licence by IOP Publishing Ltd. Recently, much attention has been paid to different processes using low- temperature plasma, and in particular, the process of plasma spraying. Despite the fact that the plasma spraying method has been established for a relatively long time, there are several unsolved issues in this field that are associated with the choice of the optimal spraying modes. It is connected with the fact that the development of optimal spraying process modes is a rather difficult task, since the problem of creating an optimal design for the plasmatron is not solved yet. In this article the technological plasma plant with liquid electrode is discussed, which provides a plasma spray with a temperature up to 5000°C and lengths up to 100 mm. Engineered installation allows to carry out plasma spraying of steel surface. The process and parameters of plasma spraying optimal modes are examined in the article.

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