

# Metal additive manufacturing equipment

To suppress a smoke phenomenon and use a powder bed system more effectively.

## Overview

The technology to suppress the smoke phenomenon in the metal lamination process of powder bed system is attracting attention. Since the smoke phenomenon inhibits the beam irradiation, the melting of the metal powder becomes insufficient, and the deterioration of the laminated product is caused. To solve this problem, countermeasures such as temporary sintering have been taken, but they are not sufficient, and research and development are continuously carried out.

As a result of repeated research focusing on the fact that each metal powder is covered with a thin oxide film, the present invention devised an apparatus capable of suppressing the smoke phenomenon more effectively than ever before. Since the smoke phenomenon is mainly caused by the electrification of each metal powder by the irradiation beam, the problem was solved by pretreating the powder bed. As a result, development of a laminated molding apparatus capable of effectively suppressing the smoke phenomenon and development of an auxiliary apparatus mountable to an existing apparatus are expected.

## Product Application

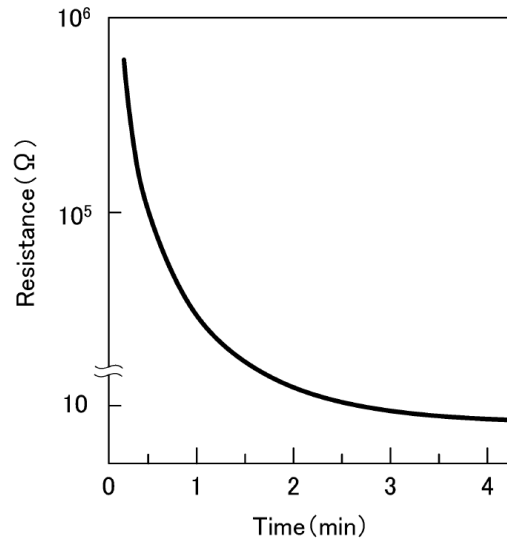
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## IP Data

IP No. : JP2025-207009  
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Admin No. : T25-063

The patent for this technology is in unpublished status. If there is a company that is interested, please do not hesitate to contact us.

## To suppress smoke phenomenon



The left figure shows the resistance of the powder bed. As the process progresses, the resistance value approaches that of a metallic material.

## Related Works

## Contact

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