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**Additive manufacturing - Alumina slurry for vat
photopolymerization of ceramics**

增材制造 陶瓷立体光固化用氧化铝浆料

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

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Alumina slurry for additive manufacturing of ceramic stereolithography

1 Scope

This document specifies the composition and materials, preparation methods, technical requirements, test methods, inspection specifications of alumina slurry for ceramic stereolithography.

as well as marking, packaging, transportation, storage and accompanying documents.

This document applies to the production and inspection of alumina slurries for stereolithography of additively manufactured ceramics.

2 Normative references

GB/T 6680

GB/T 24487

GB/T 35351

GB/T 44149

GB/T 45765

3 Terms and Definitions

The terms and definitions defined in GB/T 35351 and the following apply to this document.

3.1 Alumina slurry

Alumina powder, photosensitive polymer material, dispersant, photoinitiator and other components determined according to performance are mixed in a certain proportion.

A liquid mixture that is measured and mixed.

3.2 Solid loading

The volume fraction of ceramic powder in ceramic slurry.

3.3 curing specifications

It is used to evaluate and control the curing effect of alumina slurry in the process of ceramic stereolithography, mainly including the curing of alumina slurry by light irradiation.

The curing depth and edge curing error formed after curing.

3.4 Curing depth

The Z-direction cross-sectional height of alumina slurry cured under a certain light irradiation during the ceramic stereolithography process.

3.5 edge curing error

The size and radiation intensity of the cured area outside the light spot outline caused by scattering and refraction of alumina slurry during the process of ceramic stereolithography
The error between the sizes of the photographed areas.