ICS 25.030
CCS J 04

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 43614-2023

Additive manufacturing-Test method for laser cladding head of metal powder directed energy deposition equipments

增材制造 金属粉末定向能量沉积设备激光熔覆头测试方法

Issued on: December 28, 2023 **Implemented on: December 28, 2023**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

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Foreword

This document complies with the provisions of GB/T 1:1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

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Additive manufacturing metal powder directional energy deposition equipment Laser cladding head test method

1 Scope

This document specifies the test requirements and inspection reports for laser cladding heads of directional energy deposition equipment for additive manufacturing of metal powders: It describes the optical Spot size test, powder spot diameter test and optical powder coaxial test methods:

This document applies to the performance of laser cladding heads of coaxial optical internal powder feeding type and coaxial optical external powder feeding type metal powder directional energy deposition equipment test:

2 Normative reference documents

GB/T 7551-2008

GB/T 14896

GB/T 14896

GB 25493-2010

GB/T 35351

GB 39800

3 Terms and definitions

The following terms and definitions as defined in GB/T 35351, GB/T 14896:7-2015 and GB/T 14896:9-2018 apply to this document: document: 3:1 cladding workplane

claddingworkplane The forming surface of the laser cladding head of metal powder directional energy deposition equipment:

Note: Usually the surface of the latest deposited layer: 3:2 Coaxial powder feeding nozzle coaxialfeedinghead The powder feeding nozzle is coaxial with the laser beam axis:

[Source: GB/T 14896:7-2015,5:21:1] 3:3 spot size spotsize The size of the spot projected by a laser beam at any (or specific) cross-section:

[Source: GB/T 14896:9-2018,3:11]