

ICS 25.020

CCS J 32



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 43479-2023

**Metal spinning formability and test methods-Formability,
formability indexes and general test code of practice**

金属旋压成形性能与试验方法 成形性能、成形指标及通用试验规程

Issued on: December 28, 2023

Implemented on: July 1, 2024

**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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This document is proposed and coordinated by the National Forging Standardization Technical Committee (SAC/TC74):

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Metal spinning forming properties and test methods Forming performance, forming indicators and general test procedures

1 Scope

This document stipulates the forming performance and forming indicators of room temperature spin forming of metal materials, and describes the general operating steps for performance testing:

Steps include sample preparation, test wheel, mandrel and tail top preparation, test auxiliary device and machine tool preparation, sample lubrication and cooling, pre-test, normal test Type test, data collection and calculation, and test report:

This document is suitable for testing the spinning forming properties of metal drawing spinning, reducing diameter spinning, shear spinning and flow spinning: It is also applicable to metal spinning:

It is a test for the testing of special spinning forming properties such as reducing diameter spinning of non-axisymmetric parts and spinning of non-circular cross-section parts:

2 Normative reference documents

GB/T 228

GB/T 8541

GB/T 38959

3 Terms and definitions

The following terms and definitions as defined in GB/T 228:1, GB/T 8541 and GB/T 38959 apply to this document: 3:1 The deformation ability that a metal material can achieve without damage (defects such as wrinkling, cracking, peeling or bulging) during single-pass spinning forming, that is, The ability of materials to be smoothly formed and meet quality requirements during spin forming: 3:2 When deep drawing spinning is formed, the minimum diameter of the spinning part that can be formed in a single pass of spinning without wrinkling or cracking is the same as the blank: diameter ratio: 3:3 limit halfconeangle limithalfconeangle During shear spinning forming, the bus bar and workpiece of the spinning part can be formed in a single pass of spinning without wrinkling, peeling or

cracking:

The minimum angle between the axis of the piece: 3:4 limit thinning ratio limit thinning ratio It can be formed without wrinkling, peeling or cracking during shear spinning: It can be formed without peeling, cracking or bulging during flow spinning:

In the case of, the ratio of the difference between the original thickness of the blank and the minimum wall thickness of the spinning part that can be formed by a single pass of spinning to the original thickness of the blank: