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(JWES/JSA)

**Specification and qualification of  
welding procedures for metallic  
materials — Welding procedure test —  
Part 1: Arc and gas welding of steels and  
arc welding of nickel and nickel alloys**

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In the event of any doubts arising as to the contents,  
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## Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Welding Engineering Society (JWES)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS Z 3422-1** : 2003), which has been technically revised.

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# Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1 : Arc and gas welding of steels and arc welding of nickel and nickel alloys

## Introduction

This Japanese Industrial Standard has been prepared based on **ISO 15614-1** : 2017, Edition 2, and Amendment 1 : 2019, with some modifications of the technical contents.

The dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JC.

All new welding procedure tests based on **JIS** are to be carried out in accordance with this Standard from the date of its issue. However, this Standard does not invalidate previous welding procedure qualification records made to former national standards or specifications or previous issues of this Standard.

This Standard is part of a series of standards dealing with specification and qualification of welding procedures for metallic materials. Annex JB gives details of International Standards dealing with specification and qualification of welding procedures.

## 1 Scope

This Standard specifies how a preliminary welding procedure specification (hereafter referred to as pWPS) is qualified by welding procedure tests for the arc and gas welding of steels in all product forms and the arc welding of nickel and nickel alloys in all product forms. The principles of this Standard may be applied to other fusion welding processes upon agreement between the contracting parties.

Arc and gas welding are covered by the following processes :

- manual metal arc welding (metal-arc welding with covered electrode);
- self-shielded tubular-cored arc welding;
- submerged arc welding;
- gas-shielded metal arc welding (GMAW);
- gas-shielded arc welding with non-consumable electrode;
- plasma arc welding;
- oxy-acetylene welding.

This Standard applies to production welding, repair welding and overlay welding.

This Standard defines the conditions for the execution of welding procedure tests and the range of qualification for welding procedures for all practical welding operations within the qualification of this Standard.