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**Specification and qualification of welding
procedures for metallic materials —
General rules**

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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 3420** : 2003), which has been technically revised.

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Specification and qualification of welding procedures for metallic materials — General rules

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 15607** : 2019, Edition 2, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

Welding procedure specifications (WPSs) are needed in order to provide a well-defined basis for planning of the welding operations and for quality control during welding. Welding is considered a special process in the terminology of standards for quality systems. Standards for quality systems usually require that special processes be carried out in accordance with written procedure specifications.

Preparation of a welding procedure specification provides the necessary basis for, but does not in itself ensure that the welds fulfil the requirements. Some deviations, notably imperfections and distortions, can be evaluated by non-destructive methods on the finished product.

However, metallurgical deviations constitute a special problem because non-destructive evaluation of the mechanical properties is impossible at the present level of non-destructive technology. This has resulted in the establishment of a set of rules for qualification of the welding procedure prior to the release of the specification to actual production. This Standard defines these rules.

1 Scope

This Standard defines general rules for the specification and qualification of welding procedures for metallic materials. This Standard also refers to several other standards as regards detailed rules for specific applications.

This Standard is part of a series of standards dealing with specification and qualification of welding procedures. Annex A gives details of International Standards dealing with specification and qualification of welding procedures, Annex B gives results and parties involved at different phases in welding procedure qualification, and Annex C gives a flow diagram for the development and qualification of a WPS.

This Standard is applicable to manual, partly mechanized, fully mechanized and automated welding.

Welding procedures are qualified by conforming to one or more welding procedure qualification records (WPQR). The use of a particular method of qualification is often a requirement of an application standard.