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# JIS B 8821 : 2023

## (JCA/JSA)

# Calculation standards for steel structures of cranes

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.



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## Foreword

This Japanese Industrial Standard has been revised by the Minister of Health, Labour and Welfare and 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 Japan Crane Association (JCA)/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 B 8821** : 2013), which has been technically revised.



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# Calculation standards for steel structures of cranes

## 1 Scope

This Japanese Industrial Standard specifies the calculation standards based on the allowable stress method for steel structures of cranes and mobile cranes specified in JIS B 0146-1. However, the formulae and numerical values specified in this Standard need not necessarily be used if verification is possible with valid theory or experiment.

NOTE The calculation standards based on limit state method are provided in JIS B 8829.

## 2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 0146-1 *Cranes — Vocabulary — Part 1 : General*

JIS B 0146-2 *Cranes — Vocabulary — Part 2 : Mobile cranes*

JIS B 0146-3 *Cranes — Vocabulary — Part 3 : Tower cranes*

JIS B 0146-5 *Cranes — Vocabulary — Part 5 : Bridge and gantry cranes*

JIS B 1186 *Sets of high strength hexagon bolt, hexagon nut and plain washers for friction grip joints*

JIS B 8822-1 *Cranes — Classification — Part 1 : General*

JIS B 8822-2 *Cranes and lifting appliances — Classification — Part 2 : Mobile cranes*

JIS B 8822-3 *Cranes and lifting appliances — Classification — Part 3 : Tower cranes*

JIS B 8822-4 *Cranes and lifting appliances — Classification — Part 4 : Jib cranes*

JIS B 8822-5 *Cranes and lifting appliances — Classification — Part 5 : Overhead travelling and portal bridge cranes*

JIS B 8831 *Cranes — Design principles for loads and load combinations*

JIS G 3101 *Rolled steels for general structure*

JIS G 3106 *Rolled steels for welded structure*

JIS G 3114 *Hot-rolled atmospheric corrosion resisting steels for welded structure*

JIS G 3128 *High yield strength steel plates for welded structure*

JIS G 3136 *Rolled steels for building structure*

JIS G 3444 *Carbon steel tubes for general structure*