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钢筋焊接及验收规程

Specification for Welding and Acceptance of
Reinforcing Steel Bars

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Ministry of Construction of P.R. China

Notice

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Notice of Ministry of Construction on issuing of Specifications for Welding and Acceptance of Steel Bars as a Professional Standard

Specification for Welding and Acceptance of Steel Bars is now approved as a professional standard and numbered as JGJ18-2003. It shall be executed since May 1, 2003. The following sub-clauses in the specification, 1.0.3, 3.0.5, 4.1.3, 5.1.7 and 5.1.8 are mandatory ones, and should be strictly executed. The former professional standard, Specification for Welding and Acceptance of Steel Bars JGJ18-96 shall be replaced with it at meanwhile.

This specification was published by China Architecture & Building Press under the jurisdiction of Standard & Norm Research Institute of Ministry of Construction.

Building Ministry of PRC
March 27 2003

Foreword

Based on requirements mentioned in Jianbiao [2000] No.284, wide investigation and researching, careful concluding on practical experience and referring related advancing international standards, this specification was drafted with sufficient inquiring.

The main technical content of this standard includes the following: 1 General principle; 2 terms; 3 materials; 4 steel rebar welding; 5 quality inspection and acceptance; 6 welder qualification.

The specification was mainly revised as following: 1 According to current national standards, brand, name and joint strength index applied to welding of steel rebar were revised; 2 flash butt welding of HRB500 steel rebar and closed circular hooping stirrup was added; 3 specifications on molten gas-pressure welding process and oxygen-LPG gas-pressure welding were added; 4 specifications on arc overlap welding of HRB400 steel rebar/steel plate, arc welding and burried arc welding of steel rebar of embedded component, in addition with electric slag pressure welding of steel rebar were added; 5 The quality inspection and acceptance of weld joint and weld spot of each kind of steel rebar were divided into dominant control item and normal item, while the tensile tests of 4 types of weld joints of longitudinal load-bearing steel rebar were combined into one sub-clause; bending tests of two types of weld joints were combined into one sub-clause. All above were specified as dominant items. Specifications on quality acceptance record of inspection lot of weld joint of longitudinal loading-bearing steel rebar were added into Annex A; 6 Requirements on quality of fracture position and sectional characteristic of tensile test of steel rebar electric slag pressure welding were added; 7 Some specifications on welding process were properly simplified, combined or shifted into “specifications on provisions”; 8 Two sub-clauses on quality acceptance of resistance dot welding spot were combined into one, while shearing resistance of welding spot was unified; 9 Qualification assessment of welder operation skill was locally revised etc.

This specification under the jurisdiction of Ministry of Construction including interpretation on mandatory provision, while interpretation on detail technical content is charged by dominant drafting unit

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Words Explanations for this code	错误！未定义书签。

1 General

- 1.0.1 In order to adopt reasonable welding process and uniform quality acceptance standards while welding steel bars, and assure the advance of technology, and well quality, then this *Specification* was made.
- 1.0.2 This *Specification* is applied to welding procedure, the quality inspection and acceptance of the steel bars used in concrete structure of construction engineering.
- 1.0.3 The welder who is engaged in welding process of steel bars has to have the examination certificate of qualification for work and operation.
- 1.0.4 While carrying on a welding procedure of steel bars and making quality inspection and acceptance, besides following this specification, should also accord to the concerned specification of the national current compulsive standards.

2 Terms

- 2.0.1 Resistance spot welding of reinforcing steel bar
It is a kind of press welding method, the two steel bars are placed according to cross-overlapping joint form, and let them pressed by the two electrodes, then melt the base metal by electric resistance heat, at the same time forcing till welding spot is formed.
- 2.0.2 Flash butt welding of reinforcing steel bar
It is a kind of press welding method, the two steel bars are placed according to end-to-end joint form, then melt the point of contact metal by electric resistance heat, simultaneously produce wild spattering, and form into flash, at last apply upset force rapidly to finish the welding.
- 2.0.3 Arc welding of reinforcing steel bar
It is a kind of fusion welding method, let welding rod as one electrode, and steel bar as the other, then start welding by the arc heat produced while welding current pass through.
- 2.0.4 Narrow-gap arc welding of reinforcing steel bar
It is a kind of arc welding method, the two steel bars are placed according to end-to-end joint form levelly, and put them into copper mould with a little gap between, then use welding rod starting arc from the end of the joint and weld upward continuously till finishing.
- 2.0.5 Electro-slag pressure welding of reinforcing steel bar
It is a kind of press welding method, the two steel bars are placed according to end-to-end joint form vertically, when welding, the ends will be melted and forced, the melting heat comes from arc heat and electric resistance heat produced while welding current through the gap of the two bars and so form arc and electro-slag process under the flux.
- 2.0.6 Gas pressure welding of reinforcing steel bar
It is a kind of press welding method, heat the joint point of the two steel bars by oxyacetylene torch or some other flame until they are in the state of plastic (solid state)

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