

宝山钢铁股份有限公司供货技术条件

电池壳用冷轧钢带

Supply Technical Conditions of Baoshan Iron and Steel Co., Ltd.

Cold-rolled steel strips for battery cases

Q/BQB 495-2014

Replacing BZJ 495-2008

1 Scope

This Technical Conditions specifies the classification and code, dimension, shape, weight, technical requirements, inspection and test, packaging, marking and inspection documents of cold-rolled steel strips for battery cases.

This Technical Conditions applies to cold-rolled steel strips for battery cases with a thickness of 0.25 mm ~ 0.50 mm produced by Baoshan Iron and Steel Co., Ltd. (hereinafter referred to as steel strips).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 222-2006 Permissible tolerances for chemical composition of steel products

GB/T 223 Methods for chemical analysis of iron, steel and alloy

GB/T 228.1-2010 Metallic materials - Tensile testing - Part 1: Method of test at room temperature

GB/T 230.1-2009 Metallic materials - Rockwell hardness test - Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)

GB/T 2523-2008 Measuring method of surface roughness and peak count for cold-rolled metal sheet (strip)

GB/T 2975-1998 Steel and steel products - Location and preparation of test pieces for mechanical testing

GB/T 4336-2002 Standard test method for spark discharge atomic emission - Spectrometric analysis of carbon and low-alloy steel (routine method)

GB/T 8170-2008 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 20066-2006 Steel and iron - Sampling and preparation of samples for the determination of chemical composition

GB/T 20123-2006 Steel and iron - Determination of total carbon and sulfur content - Infrared absorption method after combustion in an induction furnace (routine method)

GB/T 20125-2006 Low-alloy steel - Determination of multi-element contents - Inductively coupled plasma atomic emission spectrometric method

GB/T 20126-2006 Unalloyed steel - Determination of low carbon content - Part 2: Infrared absorption method after combustion in an induction furnace (with preheating)

Q/BQB 400 Packaging, marking and inspection documents for cold rolled products

Q/BQB 401 Dimension, shape, weight and tolerances of cold-rolled steel plates and steel strips

JIS Z2241:2011 Metallic materials - Tensile testing - Method of test at room temperature

3 Classification and code

3.1 The use and code of steel strips shall comply with the requirements of Table 1.

Table 1

Grade	Use
BDCK	For battery cases

3.2 The classification of steel strips according to surface quality shall comply

marks generated during the handling, storage and use of non-oiled products.

NOTE: The date of issue in the product inspection document is usually specified as the date of completion of the manufacture of the product.

6.4 Mechanical properties

6.4.1 The supply party shall ensure that the mechanical and process properties of steel strips comply with the requirements of Table 6 within 6 months from the date of completion of the manufacture.

6.4.2 When steel strips are supplied as the specified parts, the supply and demand parties may agree on a range of mechanical properties that meet the processing needs of the part as the acceptance criteria. At this time, the mechanical properties specified in Table 6 will no longer be used as the basis for delivery and acceptance.

6.4.3 Due to the influence of aging, the mechanical properties of steel strips will deteriorate with the prolongation of storage time, such as the increase of yield strength and tensile strength, the decrease of elongation after break, formability deteriorates, tensile strain marks appear, etc. It is recommended that users use it as soon as possible.

Table 6

Grade	Tensile test ^{a,b}				Hardness HRB	
	Yield strength MPa	Tensile strength MPa	Elongation after break A _{50mm} % not less than			
			Nominal thickness mm			
			0.25 ~ 0.30	> 0.30	0.25 ~ 0.30	> 0.30
BDCK	180 ~ 300	300 ~ 390	33	34	40 ~ 60	40 ~ 52

^a R_{P0.2} is used when the yielding phenomenon is not obvious, otherwise R_{eL} is used.

^b The specimen is the No. 5 specimen specified in JIS Z2241, and the direction of the specimen is longitudinal.

6.5 Surface quality

6.5.1 There shall be no defects that are harmful to the use, such as holes, surface cracks, laminations, on the surface of steel strips.

6.5.2 The characteristics of surface quality level of steel strips shall comply with the requirements of Table 7.

acceptance testing. In the event of a dispute, the test shall be carried out using the inspection and test methods specified in this Technical Conditions and the relevant technical requirements.

Table 9

Inspection item	Specimen quantity (piece)	Sampling method	Test method
Chemical analysis	1/furnace	GB/T 20066	GB/T 223, GB/T 4336, GB/T 20123, GB/T 20125, GB/T 20126
Tensile test	1	GB/T 2975	Method B in GB/T 228.1
Hardness	1		GB/T 230.1
Surface roughness	1/coil		GB/T 2523

7.7 For the tensile, hardness and roughness tests, if the test result of one item does not meet the technical requirements, then take double the quantity of specimens from the same batch for the re-inspection of the unqualified item. If the re-inspection result (including all the indicators required for the test of this item) is qualified, the whole batch is qualified. For the re-inspection result (including all the indicators required for the test of this item), even if one of the indicators is unqualified, the re-inspection is unqualified. If the re-inspection is unqualified, the single piece of product that has been tested and the test result is unqualified cannot be accepted, but the single piece of product in the batch that has not been tested can be resubmitted one by one for test and acceptance.

9 Packaging, marking and inspection documents

The packaging, marking and inspection documents for steel strips shall comply with the requirements of Q/BQB 400. If the demand party has special requirements for packaging mass, they shall be indicated in the contract.

10 Rules of rounding off for numerical values

The rules of rounding off for numerical values shall comply with the requirements of GB/T 8170.

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