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GB/T 20564.2-2017

Replacing GB/T 20564.2-2006

Continuously Cold Rolled High Strength Steel Sheet and Strip for Automobile – Part 2: Dual Phase Steel

汽车用高强度冷连轧钢板及钢带 第 2 部分：双相钢

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Standardization Administration of PRC.

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Foreword

GB/T 20564 *Continuously Cold Rolled High Strength Steel Sheet and Strip* can be divided into the following 11 parts:

--- Part 1: Brake Hardening Steel;

--- Part 2: Dual Phase Steel;

--- Part 3: High Strength Interstitial Free Steel;

--- Part 4: High Strength Low Alloy Steel;

--- Part 5: Isotropic Steel;

--- Part 6: Transformation Induced Plasticity Steel;

--- Part 7: Martensitic Steel;

--- Part 8: Complex Phase Steel;

--- Part 9: Quenching and Partitioning Steel;

--- Part 10: Twinning Induced Plasticity Steel;

--- Part 11: Carbon Manganese Steel.

This Part belongs to Part 2 of GB/T 20564.

This Part was drafted as per the rules specified in GB/T 1.1-2009.

This Part replaced GB/T 20564.2-2006 *Continuously Cold Rolled High Strength Steel Sheet and Strip – Part 2: Dual Phase Steel.* Compared with GB/T 20564.2-2006, this Part has the major technical changes as follows:

--- Modified the nominal thickness range (see Clause 1 of this Edition; Clause 1 of 2006 Edition);

--- Modified the definition of dual phase steel (see 3.1 of this Edition; 3.1 of 2006 Edition);

--- Added the usage classification of steel sheet and strip (see 4.2 of this Edition);

--- Deleted the quality requirements for the super-high grade of surface (see 4.2 of 2006 Edition);

--- Added the risk warnings for non-oiled products and regulations on production completion date (see 7.3.2 of this Edition);

Continuously Cold Rolled High Strength Steel Sheet and Strip for Automobile – Part 2: Dual Phase Steel

1 Scope

This Part of GB/T 20564 specifies the terms and definitions, classification and grade expression method, ordering content, dimension, shape, weight, technical requirements, test methods, inspection rules, package, marking and quality certificate of cold rolled high strength dual phase steel sheet and strip.

This Part is applicable to the steel sheet and strip with thickness of 0.50mm~3.00mm for manufacturing automotive structural parts, reinforcement parts and some internal and external plates (hereinafter referred to as “steel sheet and strip”).

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 223.4 Iron, Steel and Alloy – Determination of Manganese Content – Potentiometric or Visual Titration Method

GB/T 223.5 Steel and Iron - Determination of Acid-Soluble Silicon and Total Silicon Content - Reduced Molybdosilicate Spectrophotometric Method

GB/T 223.9 Iron, Steel and Alloy - Determination of Aluminium Content - Chrom Azurol S Photometric Method

GB/T 223.12 Methods for Chemical Analysis of Iron, Steel and Alloy - The Sodium Carbonate Separation-Diphenyl Carbazide Photometric Method for the Determination of Chromium Content

GB/T 223.26 Iron, Steel and Alloy - Determination of Molybdenum Content - The Thiocyanate Spectrophotometric Method

GB/T 223.59 Iron, Steel and Alloy - Determination of Phosphorus Content - Bismuth Phosphomolybdate Blue Spectrophotometric Method and Antimony

Phosphomolybdate Blue Spectrophotometric Method

GB/T 223.64 Iron, Steel and Alloy - Determination of Manganese Content - Flame Atomic Absorption Spectrometric Method

GB/T 223.78 Methods for Chemical Analysis of Iron, Steel and Alloy - Curcumin Spectrophotometric Method for the Determination of Boron Content

GB/T 223.86 Steel and Iron - Determination of Total Carbon Content - Infrared Absorption Method after Combustion in an Induction Furnace

GB/T 228.1-2010 Metallic Materials - Tensile Testing - Part 1: Method of Test at Room Temperature

GB/T 247 General Rule of Acceptance, Package, Mark and Certification for Steel Sheet and Strip

GB/T 708 Dimension, Shape, Weight, and Tolerance for Cold-Rolled Steel Plate

GB/T 2523 Measuring Method of Surface Roughness and Peak Count for Cold-Rolled Metal Sheet (Strip)

GB/T 2975 Steel and Steel Products - Location and Preparation of Test Pieces for Mechanical Testing

GB/T 4336 Carbon and Low-Alloy Steel - Determination of Multi-Element Contents -Spark Discharge Atomic Emission Spectrometric Method (Routine Method)

GB/T 5028 Metallic Materials - Sheet and Strip - Determination of Tensile Strain Hardening Exponent (N-Values)

GB/T 8170 Rules of Rounding off for Numerical Values & Expression and Judgement of Limiting Values

GB/T 17505 Steel and Steel Products - General Technical Delivery Requirements

GB/T 20066 Steel and Iron - Sampling and Preparation of Samples for the Determination of Chemical Composition

GB/T 20123 Steel and Iron - Determination of Total Carbon and Sulfur Content Infrared Absorption Method after Combustion in an Induction Furnace (Routine Method)

GB/T 20125 Low-Alloy Steel - Determination of Multi-Element Contents - Inductively Coupled Plasma Atomic Emission Spectrometric Method

GB/T 20126 Unalloyed Steel - Determination of Low Carbon Content - Part 2: Infrared Absorption Method after Combustion in an Induction Furnace (with

type, edge state, package and the like information are not indicated in the ordering contract; then the products in this Part shall be delivered as per the ordinary dimension and roughness accuracy, relative high-level surface, pitted surface structure and cutting edge state; and packaged as per the packaging mode provided by the supplier.

6 Dimension, Shape and Weight

The dimension, shape, weight and allowable deviation of steel sheet and strip shall conform to the provisions of GB/T 708.

7 Technical Requirements

7.1 Chemical compositions

The reference values of chemical compositions (melting analysis) of steel can refer to Appendix A. If the purchaser has the demand for the chemical compositions, it shall be negotiated when ordering. The approximate comparison between the national and international standard grades can refer to Appendix B.

7.2 Smelting method

The steel for steel sheet and strip be smelted by oxygen converter or electric furnace; unless otherwise is specified, the smelting mode shall be selected by the supplier.

7.3 Delivery state

7.3.1 Generally, the steel sheet and strip shall be delivered in a flattened state after annealing and can also be delivered in rough state through the negotiation between the supplier and purchaser.

7.3.2 The steel sheet and strip shall be supplied with oil painting; the painted oil film can be removed by alkaline solution or usual solution; under the normal packaging, transporting, loading and unloading, and storing conditions, the supplier shall guarantee that the steel sheet and strip surface won't rust within 6 months since the manufacture completion date. If the purchaser requires to deliver the product without oil painting, then it shall be negotiated when ordering.

NOTE: for the purchaser required non-oiled products, it may generate rust; may also generate slight scratches during the transporting, loading and unloading, storing and using process.

7.4 Mechanical properties

7.4.1 The supplier shall guarantee the mechanical properties of steel sheet and plate conform to the provisions of Table 4 within 6 months since the manufacture completion date.