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Prepainted hot-dip zinc-coated steel sheet
and strip

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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 Iron and Steel Federation (JISF) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS G 3312:2013** is replaced with this Standard.

However, **JIS G 3312:2013** may be applied in the **JIS** mark certification based on the relevant provisions of Article 19 Clause 1, etc. of the Industrial Standardization Law until June 19, 2020.

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Prepainted hot-dip zinc-coated steel sheet and strip

1 Scope

This Japanese Industrial Standard specifies requirements for the prepainted hot-dip zinc-coated steel sheet (hereafter referred to as sheets) and prepainted hot-dip zinc-coated steel strip (hereafter referred to as coils), which are produced by applying synthetic resin paint with baking finish on the hot-dip zinc-coated steel sheet and strip as well as requirements for the corrugated sheet processed into the shape and dimensions as specified in **JIS G 3316** (hereafter referred to as corrugated sheets).

2 Normative references

The following standards contain provisions which, 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 G 0404 *Steel and steel products — General technical delivery requirements*

JIS G 0415 *Steel and steel products — Inspection documents*

JIS G 3302 *Hot-dip zinc-coated steel sheet and strip*

JIS G 3316 *Shapes and dimensions of corrugated steel sheets*

JIS K 5600-4-4 *Testing methods for paints — Part 4 : Visual characteristics of film — Section 4 : Colorimetry (Principles)*

JIS K 5600-8-2 *Testing methods for paints — Part 8 : Evaluation of degradation of paint coatings — Section 2 : Designation of degree of blistering*

JIS K 5600-8-4 *Testing methods for paints — Part 8 : Evaluation of degradation of paint coatings — Section 4 : Designation of degree of cracking*

JIS K 5600-8-6 *Testing methods for paints — Part 8 : Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Section 6 : Assessment of degree of chalking by tape method*

JIS K 5602 *Determination of reflectance of solar radiation by paint film*

JIS R 6252 *Abrasive papers*

JIS S 6006 *Pencil, coloured pencils and leads for them*

JIS Z 1522 *Pressure sensitive adhesive cellophane tapes*

JIS Z 2371 *Methods of salt spray testing*

JIS Z 8401 *Guide to the rounding of numbers*

JIS Z 9107 *Safety colours and safety signs — Classification, performance and durability of safety signs*

3 Classification and symbols

3.1 Classification and symbols for paint coatings

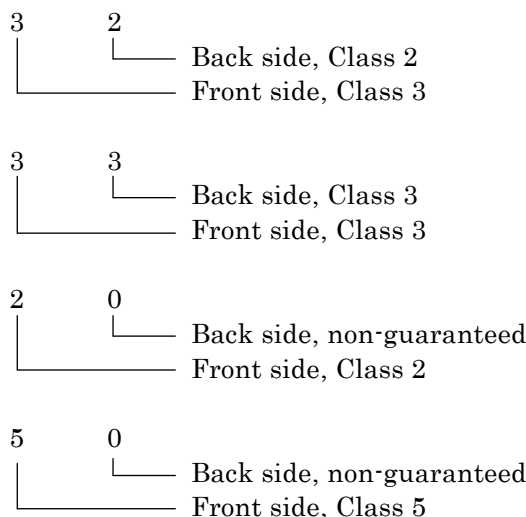
The paint coatings are classified into 6 classes. The symbol for paint coatings on each side (guaranteed side) shall be as given in Table 1.

Table 1 Classification and symbols for paint coatings

Class of paint coating	Symbol for paint coating	Coat (reference) ^{a)}	Lightness and solar reflectance
Class 1	1	Mainly 1 coat	Not specified
Class 2	2	Mainly 2 coats	
Class 3	3	Mainly 2 or more coats	
Class 4	4	Mainly 1 coat	As specified in Clause 8
Class 5	5	Mainly 2 coats	
Class 6	6	Mainly 2 or more coats	
NOTE Printing, partial painting or the like which has no influence on the coating quality is sometimes applied on sheets and coils.			
Note ^{a)} Coat refers to a paint coating formed by painting and baking, and the figure indicates the number of times of application of paint coatings.			

The classes of paint coatings on the front side and back side of sheets, coils and corrugated sheets shall be expressed with a 2-digit figure which is a combination of symbols for the class of paint coatings on each side. The first digit indicates the symbol for the front side and the second digit indicates the symbol for the back side. For the non-guaranteed side, the symbol shall be “0” regardless of whether the surface is coated or not. The term “guaranteed” indicates the conformity with Clauses 6, 7, 8 and 14. For the sheets, coils and corrugated sheets for roofing, the requirements in Clause 6 a) shall also apply to the durability of 0 side.

Examples :



3.2 Symbol of grade, applicable nominal thickness ¹⁾ and substrate for prepainting

The symbol of grade, applicable nominal thickness and substrate for prepainting shall be as follows.

Note ¹⁾ Nominal thickness refers to the thickness of the cold-reduced base metal before applying coating on the substrate for prepainting [see **9.1 a)**].

- a) The sheets and coils are classified into 10 grades. The symbol of grade and applicable nominal thickness shall be as given in Table 2.
- b) The corrugated sheets are classified into 7 grades of commercial quality, commercial hard quality and high strength commercial quality among those given in Table 2. The applicable nominal thickness and the symbol for coating mass shall be as specified in Annex JB of **JIS G 3302**.
- c) The substrate for prepainting shall be the hot-dip zinc-coated steel sheet and strip using cold-reduced base metal specified in **JIS G 3302**, and the symbol of grade for the substrate for prepainting shall be as given in Table 2. For paint coatings of Class 3 or Class 6, the coating mass corresponding to symbol Z27 given in **JIS G 3302** or greater shall be applied to the substrate for prepainting.
- d) The sheets, coils and corrugated sheets used for roofing and architectural siding shall be as follows.
 - 1) The applicable nominal thickness and the symbol for coating mass shall be as specified in Annex JA of **JIS G 3302**.
 - 2) The symbol shall be as given in Table 3.
 - 3) Paint coating of Class 2, Class 3, Class 5 or Class 6 shall be applied.
 - 4) When the front side of sheet, coil or corrugated sheet for roofing is guaranteed and its paint coating is classified into Class 2 or Class 5, the back side shall be painted to beige.
- e) The classification of the shape of corrugated sheets and their symbols shall be as given in Table 4.

Table 2 Symbol of grade and applicable nominal thickness

Unit: mm

Symbol of grade	Applicable nominal thickness	Application	Symbol for class of substrate for prepainting
CGCC	0.19 or over up to and incl. 2.3	Commercial	SGCC
CGCH	0.11 or over up to and incl. 1.0	Commercial hard	SGCH
CGCD1	0.30 or over up to and incl. 1.6	Drawing, Class 1	SGCD1
CGCD2	0.40 or over up to and incl. 1.6	Drawing, Class 2	SGCD2
CGCD3	0.60 or over up to and incl. 1.6	Drawing, Class 3	SGCD3
CGC340	0.25 or over up to and incl. 1.6	High strength commercial	SGC340
CGC400			SGC400
CGC440			SGC440
CGC490			SGC490
CGC570			SGC570

Table 3 Symbol for roofing and architectural siding

Application	Symbol
Roofing	R
Architectural siding	A

Table 4 Classification and symbol for shape of corrugated sheet

Class of shape of corrugated sheet	Symbol
Corrugated sheet No. 1 (long pitch) ^{a)}	W1
Corrugated sheet No. 2 (short pitch) ^{a)}	W2
Note ^{a)} The shape and dimensions of long pitch and short pitch corrugated sheets shall be as specified in JIS G 3316 .	

Examples of symbols for class are as follows.

- CGCC-20 : One-side guaranteed, prepainted hot-dip zinc-coated steel sheet of Class 2 with commercial quality
- CGCCR-22 : Both-side guaranteed, prepainted hot-dip zinc-coated steel sheet of Class 2 for roofing (Class 2 for back side) with commercial quality
- CGC400-32 : Both-side guaranteed, prepainted hot-dip zinc-coated steel sheet of Class 3 (substrate for prepainting SGC400, Class 2 for back side) with high strength commercial quality
- CGCCR-20 W2 : One-side guaranteed, corrugated steel sheet No. 2 of prepainted hot-dip zinc-coated steel sheet of Class 2 for roofing with commercial quality