



Department Administrative Order

**No. 09-10
Series of 2009**

Subject: Mandatory Philippine National Standard for hot-dip metallic-coated steel sheets for roofing

1. In accordance with the provisions of R.A. No. 4109, R.A. No. 7394, Executive Order No. 913, Series of 1983, DAO No. 02, Series of 2007, DAO No. 4, Series of 2008, DAO No. 5, Series of 2008, and Sec 10 (4), Title X, Book IV, of the Administrative Code of 1987, the following Philippine National Standard is hereby adopted for mandatory implementation


PNS 67:2009 - Hot-dip metallic-coated steel sheets for roofing – Specification

2. All manufacturers, distributors, importers and retailers of said product shall comply with the requirements of this standard.
3. A third party certification, known as the PS Quality and/or Safety Certification Mark, shall be obtained from the Bureau of Product Standards (BPS) by all manufacturers of said product. Importers of said product shall secure an Import Commodity Clearance (ICC) from the DTI prior to distribution and/or selling in the local market.
4. BPS shall promulgate implementing guidelines specifying implementing timetables, taking into consideration present inventory levels, production capabilities of industries, and testing capabilities of BPS and other testing institutions.
5. The implementation of this standard shall be done in proper coordination with the DTI Regional and Provincial Offices and the Bureau of Trade Regulation and Consumer Protection (BTRCP).
6. All manufacturers, distributors, importers and retailers found not complying with this requirement shall be penalized in accordance with the provision for liabilities and penalties under R.A. 7394, E.O. 913 and DAO 02:2007.
7. All other orders or parts thereof which are inconsistent with the provisions of this Administrative Order are hereby repealed or amended accordingly.
8. This Order shall take effect fifteen (15) days after publication in two newspapers of general circulation.

Accordingly, all parties concerned are hereby informed that copies of said standards and implementing guidelines may be secured from the Bureau of Product Standards.


Approved: _____ 2009

Signed on November 23, 2009


PETER B. FAVILA
Secretary

Recommended by:


ATTY. VICTORIO MARIO A. DIMAGIBA
Director-in-Charge, BPS


ZENAIDA C. MAGLAYA
Undersecretary, CWTRG

11/4/09

PHILIPPINE NATIONAL STANDARD

PNS 67:2009
ICS 77.140.50

Hot-dip metallic-coated steel sheets for roofing – Specification



BUREAU OF PRODUCT STANDARDS

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Foreword

This Philippine National Standard Specification for Hot-dip metallic-coated steel sheets for roofing was prepared by the Bureau of Product Standards' Technical Committee on Flat Steel Products, BPS/TC 64.

This standard cancels and replaces PNS 67:2008.

In this new edition the following significant changes/modifications were made:

- the scope of the standard is now specific for roofing application and it covers the following metallic-coated sheets manufactured by the hot dip process: zinc coated, zinc-5 % aluminum-coated, and 55 % aluminum-zinc coated;
- addition of new sizes;
- minimum coating designations for the 3 metallic coated sheets; and
- a requirement on minimum estimated service life.

This standard is issued to consider the recommendation of majority of TC 64 members on minimum coating designations and allowable tolerance for the minimum thickness of 0.2 mm.



Hot-dip metallic-coated steel sheets for roofing – Specification

1 Scope

1.1 This standard specifies the requirements for steel sheets used in the manufacture of roofing and roofing accessories.

1.2 The sheet is metallic-coated by the hot dip process.

1.3 Included in this standard are the following metallic-coated materials:

1.3.1 Zinc-coated;

1.3.2 Zinc-5 % aluminum-coated; and

1.3.3 55 % aluminum-zinc coated.

1.4 This standard applies to all profiles.

2 References

The titles of the standard publications referred to in this standard are listed in the inside back cover.

3 Definitions

For the purpose of this standard, **lot** is defined as all the sheets or coils of the same material, shape, dimension and zinc coating designation contained in an individual shipping release or shipping order.

4 General requirements

4.1 The quality of the base metal used shall conform to the requirements of PNS 127:2004. *ov*

4.2 The chemical composition, and mechanical properties for hot-dip metallic-coated steel sheets for roofing shall be in accordance with applicable Philippine National Standards; PNS 1990:2004 for Zinc-coated, PNS 2003:2004 for Zinc-5 % aluminum-coated, and PNS 1993:2004 for 55 % aluminum-zinc coated.

4.3 Dimensions**4.3.1 Nominal thickness, mm**

The nominal thickness in mm shall be as follows:

0.20, 0.30, 0.40, 0.50, 0.60, 0.70, and 0.80

NOTE 0.20 mm is full hard.



4.3.2 Thickness tolerance, mm

4.3.2.1 The thickness tolerance for 0.2 nominal thickness shall be ± 0.02 .

4.3.2.2 The thickness tolerances for nominal thicknesses; 0.30, 0.40, 0.50, 0.60, 0.70, and 0.80, shall be in accordance with the tolerances specified in applicable Philippine National Standards for hot-dip metallic coated steel sheets namely PNS 1990:2004, PNS 1993:2004 and PNS 2003:2004.

4.3.3 Width and length

4.3.3.1 The width and length of flat sheets shall conform to Table 1.

Table 1 – Width and length for plain sheets

Unit: mm

Width	Length					
760	1830	2140	2440	2750	3050	3660
900	1830	2140	2440	2750	3050	3660
915	1830	2140	2440	2750	3050	3660
1000	1830	2140	2440	2750	3050	3660
1220	1830	2140	2440	2750	3050	3660
1250	1830	2140	2440	2750	3050	3660
NOTE All lengths longer than what is stated is as per customer agreement.						

4.3.3.2 Tolerance

The tolerances on width and length shall be as shown in Table 2.

Table 2 – Tolerance on width and length for plain sheets

Unit: mm

Requirement	Tolerance
Width	+ 7 - 0
Length	+ 20 - 0

4.3.4 Shapes and dimensions for corrugations

Shapes and dimensions for corrugations shall be as shown in Table 3.

Table 3 – Shapes and dimensions for corrugated sheets

Unit: mm

Feed material width	Width	Pitch	Depth
760	665	76	18
900	787	76	18
915	800	76	18
1000	875	76	18
1220	1067	76	18
1250	1093	76	18

NOTE For length and tolerance of corrugated sheets, refer to Tables 1 and 2.

4.3.5 Shape and dimensional tolerances

The shape and dimensional tolerances of corrugated sheets shall conform to the requirements specified in Table 4, provided that, the tolerances on thickness, width and length prior to corrugation shall conform to those specified in Tables 1 and 2.

Table 4 – Shape and dimensional tolerances

Unit: mm

Requirement	Tolerance
Width	+ 25.0 - 15.0
Depth of corrugation	± 1.5
Pitch of corrugation	± 2.0
<p>NOTE 1 The depth of corrugation is an average value of measurements made at three points, each point located at different corrugations across the width of sheet.</p> <p>NOTE 2 The pitch of corrugation is an average value of five measured pitches for corrugated sheet of Figure 1.</p> <p>NOTE 3 Unless otherwise specified, both edges must be turned up in the same direction for corrugated sheet of Figure 1 with a feed material width up to 1250 mm.</p>	

4.4 Corrugation

The standard shapes and dimensions of corrugation shall be in accordance with Figure 1. The width before or after corrugation, other than those given in Figure 1 shall be subject to the agreement between the purchaser and the manufacturer.

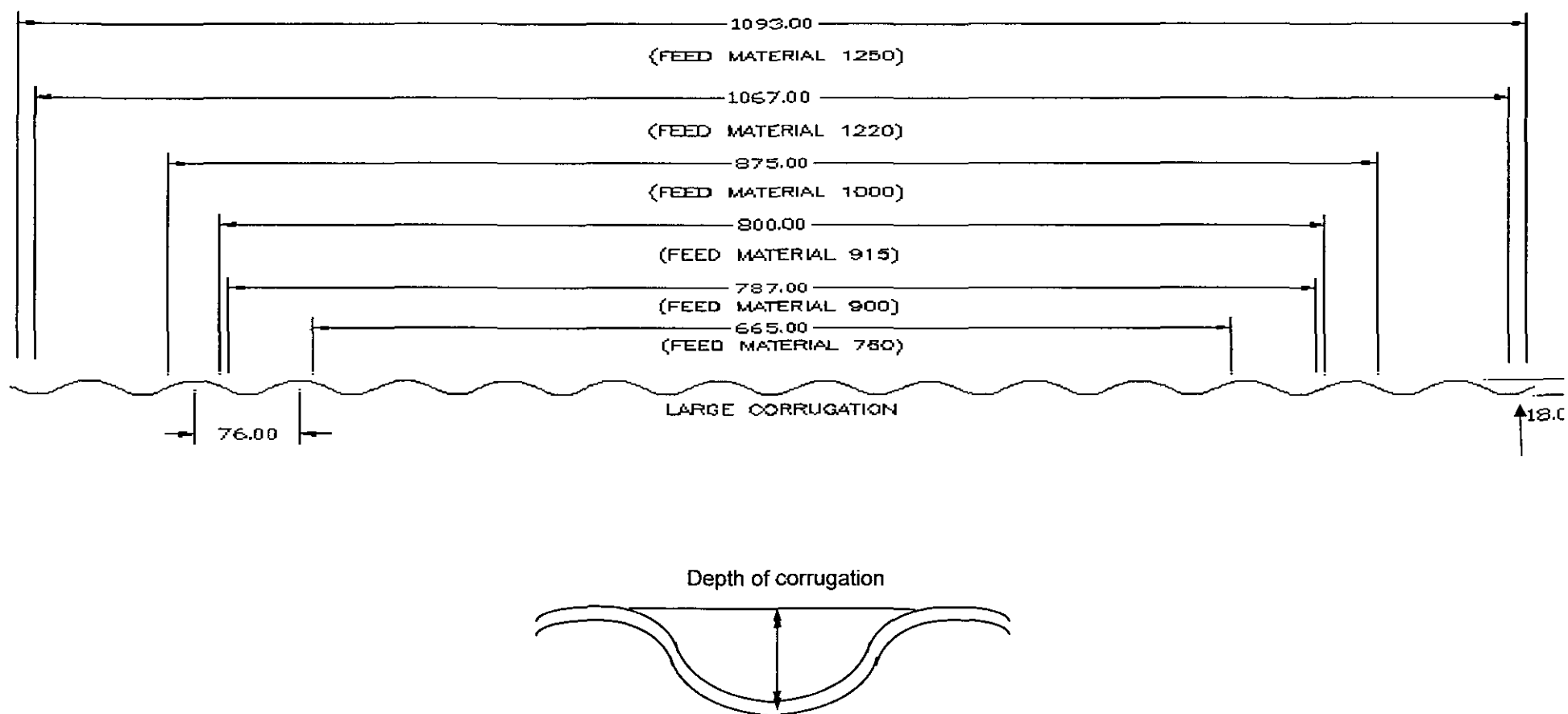


Figure 1 – Standard shapes and dimensions of corrugated sheet

4.5 Applicable coating designation

For roofing applications, the following minimum coating designation per product shall apply:

- a. Zinc coated product – Z 120
- b. 55 % Al Zn coated product – AZ 60
- c. Zn – 5 % Aluminum coated product – ZA 80

NOTE Refer to applicable Philippine National Standards: PNS 1990:2004, PNS 1993:2004 and PNS 2003:2004 for coating designations.

4.6 Minimum service life

An estimated service life shall be provided by manufacturers of steel sheets for roofing. The minimum estimated service life shall not be lower than 5 years.

4.7 Other profiles

Shapes and dimensions for other profiles shall be left to the discretion of the manufacturer provided that the tolerances on thickness, width and length prior to profile shall conform to those specified in Tables 1 and 2.

5 Sampling

Test sheet is taken from each lot and one test sheet shall be taken out of every 1,000 sheets or fraction thereof for sheets cut to specified lengths.

6 Methods of test

The determination of dimensions, mass of coating, chemical composition, and mechanical properties shall be tested in accordance with the applicable Philippine National Standard.

7 Marking/labeling requirements

7.1 Coated steel sheets shall be legibly marked or stamped with the following minimum information:

- a) Company name, brand name, and address of the manufacturer;
- b) Coating designation and state applicable PNS;
Example: "Z 120 / PNS 1990: 2004"
"AZ 60 / PNS 1993: 2004"
"ZA 80 / PNS 2003:2004"
- c) Thickness, mm;
- d) Width, mm;
- e) Date of manufacture (month and year);
- f) The term "FOR ROOFING USE"; and
- g) Estimated service life

NOTE Higher coating designations may have higher estimated service life and may be agreed upon between the manufacturer and customer. However, it shall not be lower than the estimated minimum service life of 5 years as specified in 4.6.

In addition to clause 7.1 the following shall be marked, if imported:

- h) Country of manufacture; and
- i) Company name and address of importer in the Philippines.

References

PNS 67:2009

The following standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of the publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on these standards are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

PNS 127:2004 – Cold-reduced carbon steel sheet of commercial and drawing qualities – Specification

PNS 1990:2004 – Hot-dip zinc-coated carbon steel sheets

PNS 1993:2004 – Continuous hot-dip aluminum/zinc-coated steel sheet of commercial, drawing and structural qualities

PNS 2003:2004 – Continuous hot-dip zinc/5% aluminum alloy coated steel sheets

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