



Republic of the Philippines
Department of Education

08 FEB 2021

DepEd ORDER
No. 006 s. 2021

**RE-ESTABLISHMENT OF MINIMUM PERFORMANCE STANDARDS
AND SPECIFICATIONS FOR DEPED SCHOOL BUILDINGS
USING ALTERNATIVE CONSTRUCTION MATERIALS**

To: Undersecretaries
Assistant Secretaries
Bureau and Service Directors
Regional Directors
Schools Division Superintendents
Public and Private Elementary and Secondary School Heads
All Others Concerned

1. The Department of Education (DepEd) re-establishes the enclosed **Minimum Performance Standards and Specifications (MPSS) for DepEd School Buildings Using Alternative Construction Materials** to guide the Department and its stakeholders in the preparation of architectural, structural, electrical, fire prevention, and sanitary plans to ensure the comfort and safety of future occupants of school buildings.
2. The MPSS aims to drive the construction of well-designed school buildings that:
 - a. consider anthropometrics, ergonomics, thermal comfort, illumination, ventilation, acoustics, and color;
 - b. comply with the law;
 - c. contribute to improved learner performance; and
 - d. make a lasting impression on the community with regard to the importance of education.
3. All DepEd Orders and other related issuances, rules and regulations, and provisions which are inconsistent with these guidelines are rescinded.
4. For more information, please contact the **Administrative Service-Education Facilities Division**, 2nd Floor, Mabini Building, Department of Education Central Office, DepEd Complex, Meralco Avenue, Pasig City through email at as.efd@deped.gov.ph or at telephone number (02) 8632-7110.
5. Immediate dissemination of and strict compliance with this Order is directed.


LEONOR MAGTOLIS BRIONES
Secretary

Encl.: As stated

Reference: DepEd Order No. 64, s. 2017

To be indicated in the Perpetual Index under the following subjects:

POLICY
RULES AND REGULATIONS

SCHOOLS
SCHOOL BUILDINGS



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DEPED-OSEC-437691

DJP/SMMA APA, DQ Re-establishment of MPSS for DepEd School Buildings Using ACM
0258 - October 30, 2020

Encl.:

As stated

Reference:

DepEd Order 64, s. 2017

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DJP DO Re-establishment of MPSS for DepEd School Buildings Using ACM
0258 October 30, 2020

**MINIMUM PERFORMANCE STANDARDS AND SPECIFICATIONS (MPSS)
FOR DEPED SCHOOL BUILDINGS USING ALTERNATIVE
CONSTRUCTION MATERIALS**

I. Rationale

In the effort of the Department to ensure quality basic education for our learners, the “Sulong Edukalidad Program” was established by the management to ensure that specific programs of the Department are aligned with the quality objectives of this flagship program. In terms of the provision of basic school facilities, the program shall ensure that school facilities are safe, conducive for learning, and school sites and environment are free or protected from any natural or human-induced calamities.

In ensuring the quality of the school facilities being constructed in our schools, the timely provision of this critical inputs are also vital to ensure that learners can take advantage of their full utilization during the school year. Thus, the Department is open to new technologies currently being practiced in the construction industry that will make the completion of school buildings much faster than the usual conventional manner of construction.

This Order specifically aims to establish the Minimum Performance Standards and Specifications (MPSS) in the design of DepEd school buildings using alternative construction materials. This MPSS will also provide guidance to the Central and field offices as well as the different stakeholders in understanding the basic requirements of the Department in the construction of school buildings which shall always be complied with.

II. Scope of Policy

This DepEd Order provides for the establishment of Minimum Performance Standards and Specifications (MPSS) in the design of the Department's school buildings using alternative construction materials. It covers such elements as architectural design standards, structural design standards, electrical design standards, sanitary and plumbing designs, and the necessary compliances to existing national building codes and other related laws.



III. **Definition of Terms**

Bilateral Fenestration – window openings inside the classroom positioned on opposite side of the wall

Essential Facilities – the classification of school buildings in terms of structural design

Live Loads – the moving loads applied in designing the structural integrity of a school building

R- Value – the unit of measure of heat resistance

Seismic Load – the load applied in designing the structural integrity of a school building in terms of earthquake or shaking

Wind Load – the load applied in designing the structural integrity of a school building in terms of wind velocity

IV. **Policy Statement**

A well-designed school building (which considers anthropometrics, ergonomics, thermal comfort, illumination, ventilation, acoustics, color, and compliance with laws) contributes to improved student performance and makes a lasting impression on the community with regard to the importance of education.

The Department established this Minimum Performance Standards and Specifications (MPSS) in the design of DepEd school buildings using Alternative Construction Materials to guide the Department and other stakeholders constructing school buildings in the preparation of plans - architectural, structural, electrical, and sanitary and other requirements - to ensure the comfort and safety of the would-be occupants of the school buildings.

V. **Evaluation of Design**

- i. All proposed school building designs and plans introducing new construction technology or materials shall follow the Minimum Performance Standard Specification (MPSS) using alternative construction materials.



- ii. The Education Facilities Division of the DepEd Central Office shall evaluate the proposed school building designs and plans, using alternative construction materials, to ensure compliance with the design standards.
- iii. The proposed school building design and plans shall be approved by the Secretary or by the Undersecretary for Administration.
- iv. The alternative construction materials/system proposed to be used for school buildings shall be recognized by the Bureau of Research and Standards (BRS) of the Department of Public Works and Highways or accredited by the Accreditation of Innovative Technologies for Housing (AITECH).
- v. School building designs and plans using alternative construction materials may be introduced in areas where there will be difficulty in the use of conventional type of construction materials and requires shorter construction period.

VI. **Design Standards**

The following design standards shall guide designers in the preparation of architectural, structural, electrical, mechanical and plumbing and sanitary plans for school buildings.

A. Architectural Design Standards

a. Classroom Size

The size of the classroom for elementary and secondary schools must be 7.00 meters in width x 9.00 meters in length measured from the centers of the walls. The classroom area of 63 square meter is suitable for a class size of 45 learners. In cases where site is limited, particularly in urban areas, the Division Engineer may opt to reduce the classroom size, provided that such change is concurred by the School Head and approved by the Schools Division Superintendent with the corresponding information on the maximum number of students that can be accommodated inside the given classroom size.

b. Windows



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- i. The windows must be of bilateral fenestration (transparent or translucent), operable louver type. The window must allow the entry of daylight even if it is closed.
- ii. The total area of window openings must be at least 10.00 square meters to provide natural ventilation and illumination.
- iii. The window sill must not be lower than 0.60 meter for single-storey buildings or higher than 0.90 meter for multi-storey buildings, from the finished floor line (FPL).
- iv. The minimum height of the fixed louver or transom window above the operable window is 0.30 meter.
- v. The window panels, when opened, must not be an obstruction along the corridor.
- vi. The window metal frames and jalousie holders must be sturdy enough to withstand vandalism.
- vii. Jambs shall be provided for all window openings.

c. Classroom Doors

- i. There shall be two (2) doors for every classroom.
- ii. The door swing-out angle should be 180 degrees.
- iii. The doors must be 0.90 meter in clear width and 2.10 meters in clear height.
- iv. The doors must withstand normal wear and tear and shall be provided with keyed lever-type locksets. The School Head may however request to change the locksets into other types subject to the review of the Division Engineer and approval of the Schools Division Superintendent.
- v. Polyvinyl chloride (PVC) and wooden flush doors must not be used for classroom doors.
- vi. Jambs shall be provided for all doors. Use of concrete jamb shall not be allowed.



d. Floor

- i. The floor must be of non-skid finish (grayish color).
- ii. The classroom Finish Floor Line (FFL) should be higher than the corridor FFL by 25 millimeters.
- iii. The first floor finish elevation must not be less than 225 millimeters for single-storey school building and 325 millimeters for multi-storey school buildings. The elevation may be increased depending on the history of flood level.
- iv. A ramp must be provided with a maximum slope of 1:12 in compliance with the Accessibility Law (B.P. No. 344), of non-skid finish and properly labeled.

e. Ceiling

- i. The ceiling could be drop-type ceiling or cathedral type ceiling, either type of Ceiling must provide thermal comfort and structural integrity.
- ii. The clear height of rooms from FFL to the finished ceiling line (FCL) must be at least 2.70 meters.
- iii. Materials to be used for the ceiling must provide thermal comfort inside the classroom.
- iv. Ceiling must be securely fastened into a sub-frame.

f. Roofing

- i. The roofing material must be adequately protected from rust/oxidation, salt air, acid rain, or other sources and forms of corrosion.
- ii. Roofing shall be of 0.50 mm base metal thickness (BMT), long span, galvanized steel with Z40 coating, pre-painted, and securely fastened to the roof frames.
- iii. The size of purlin must be based on the structural design of the roof frames but in no case smaller than 1.5 mm thickness x 2" x 6". C-purlins must be spaced not more than 50 cm on center.



- iv. Roofing insulation must be provided for cathedral type ceiling to repel the heat from entering the classroom. It is critical that the roofing insulation, placed between the roof and C-purlins, must have a minimum insulation value of R8. This is to provide thermal comfort inside the classroom.

g. Walls

- i. Classroom partitions must be from floor to bottom of beam.
- ii. Noise must not travel from one room to another, minimum of 45 decibels (dB).
- iii. Walls must be free from dents, cracks and cannot be easily deformed when hit by an object.
- iv. Walls should be easily repaired using standard/common hand tools.
- v. R-rating number with a minimum of R28 for external and internal walls.
- vi. The insulation within the walls should be fire-rated for at least 2-hours.
- vii. External walls and partitions must be water-resistant and must not absorb more than 5% of its volume.

h. Corridors

- i. The corridor for single-storey school buildings shall not be less than 1.50 meters.
- ii. For multi-storey school buildings, the corridors must not be less than 2.50 meters and should be provided with steel railings at a height of not less than 1.50 meters.
- iii. Corridors at the ground floor shall be provided with bench type rails, if elevation of the floor is not more than 0.30 meters from Natural Grade Line (NGL).

i. Stairways



- i. For multi-storey school buildings, concrete stairs must have a clear width of not less than 1.50 meters.
- ii. Number and width the of stairways per school building shall comply with the requirements stipulated in the National Building Code of the Philippines (NBCP).
- iii. Handrails with steel railings must be provided.

j. Fire Protection

- i. All school buildings shall comply with R.A. No. 9514, otherwise known as the Fire Code of the Philippines (FCP) and its latest Implementing Rules and Regulations (IRR). The requirements shall include a fire alarm system, a standpipe system, pressure and gravity tanks, hose boxes/reels, extinguishers and other firefighting equipment.
- ii. Fire escapes must be provided for multi-storey school buildings following the requirements of the Fire Code of the Philippines.

k. Chalkboard

- i. The classroom must be provided with a built-in chalkboard and laminate whiteboard measuring 4.88 meters wide by 1.22 meters tall each board, with mounting heights and specifications as per DepEd standards.
- ii. Provision for the installation of digital board.

l. Painting

The standard paint/color schedule of DepEd school buildings shall be as follows:

Element	DepEd MPSS Color Scheme
ROOFING and ACCESSORIES	Foam Green
DOORS	Palmyra Green
COLUMNS along classrooms	Beige (Light Shade)
COLUMNS along corridors	Light Brown
BEAMS	Beige (Light Shade)
EXTERIOR WALL	Beige (Very Light Shade)



INTERIOR WALL	Beige (Lightest Shade)
CEILING (suspended or slab/ stair slab soffit)	White
GRILLS and RAILINGS	Palmyra Green
BASEBOARD	Beige (Lightest Shade)
FLOOR FINISH (Interior and Exterior)	Concrete Plain Cement Non-skid finish (Grayish Color)

- i. Paint Materials must be certified lead-safe paints/ coatings.
- ii. All new school buildings should follow the standard color scheme above, except in the following cases:
- iii. A different dominant color scheme already exists. In such cases, the dominant color scheme may be applied.
- iv. Designs and/or accents depicting local culture or school approach are practiced. In such cases, the same design/accents may be adopted.
- v. In both cases above, no additional cost may be charged.
- vi. No new design, accent, or color scheme different from what is hereby prescribed and/or from what already predominantly exists under Item 3 above may be proposed/introduced.
- vii. There is a need to ensure, as far as practicable, the uniformity of all public school buildings essentially to provide an environment for educational activities, and effective teaching and learning. At the same time, DepEd encourages and promotes regional diversity and cultural identity.

m. Roof Markings

- i. Roof Markings shall be painted on the main building or the tallest building of the school. It shall include only the DepEd Logo and the School ID Number.
- ii. Details and specifications shall be as follows:

Roof Markings	Size	Color
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DepEd Logo * Refer to DepEd Order No. 69, s. 2003 entitled DepEd Logo	3.80 m Height 7.60 m Length	Existing DepEd Logo Design
School I.D Number	2.00 m Height 0.30 m Thick	Blue with Color White Outline

*Note: Distance between the DepEd Logo and the School I.D Number shall be at least **2.00 meters**.*

n. Wall Markings

- i. All walls must be free from any markings, except the following which may be painted on separate prominent places:
 1. DepEd Name, Seal, Logo, Mission, Vision, and Core Values
 2. Portraits and Sayings of National Heroes
 3. Name, ID, and Location of school.
- ii. An interior wall section may be selected and dedicated for the recognition of sponsors, donors, and other school partners, provided that the recognition material shall follow a standard metal plaque format that will be mounted on the wall.

o. Ventilation

- i. Natural ventilation shall be primarily supplied by the windows and vents. Artificial ventilation inside each classroom shall be supplied by at least two (2) units of 16-inch oscillating wall fans.

p. Illumination

- i. Illumination falling at desk or writing board should be taken with combined artificial and natural lighting. Illumination at all staircases and fire exit stairs shall comply with R.A. No. 9514 and its IRR.

B. Structural Design Standards

The structural design must be in accordance with the revised IRR of the 2018 National Building Code of the Philippines (NBCP) and the



latest edition of the National Structural Code of the Philippines (NSCP 2015), Volume 1, 2015.

a. Classification of Structures

In accordance with the NSCP 2015, buildings under the Project shall be designed in accordance with the classification based on the nature of occupancy of "Essential Facilities."

b. Wind Load

For all school buildings, the roofing and walls shall be designed to withstand a wind velocity of **340 kilometers per hour (kph)**. The year-round effects of the southwest monsoon ("habagat") wind and the northeast monsoon ("amihan") wind as well as of the easterly winds must be taken into consideration due to the extensive damage these may cause to roofing, walls, and fenestrations. A Wind Importance Factor (WIF) of 1.15, based on the NSCP 2015, shall be used.

The structure should be fully sealed against rainwater intrusion during typhoons and heavy rains to protect sensitive materials and equipment. Doors and windows should be fully sealed against strong vertical and lateral rains.

c. Seismic Load

For all school buildings, the structure shall be designed to withstand earthquakes for Seismic Zone 4 with a corresponding **Seismic Zone Factor of 0.4 or 8.0 magnitude**, or as otherwise specified in the NSCP 2015.

A Seismic Importance Factor (SLP) of 1.5 shall be used.

As the FFL shall be elevated to 0.20 meter above the level of flood indicated/ identified in the Site Appraisal Report (SAR), the use of "containment wall" is prescribed to ensure the safety of the structure during the rainy season.

d. Live Loads

The minimum occupancy or live loads shown in the table below shall be used in the design.



Structure Part	Live Load
Classrooms	4.80 kPa
Corridors / Stairs	4.80 kPa
Roof	1.0 kPa

Note: kPa = kilopascals

e. Design Life

The school building and its structure shall have a design life of at least twenty-five (25) years.

f. Building Foundation

The foundation shall be designed for a net allowable soil bearing pressure of 96 kPa (2,000 pounds per square foot or psf). Consistent with best practices, appropriate studies/investigation of soil shall be conducted for use as basis/bases for the foundation and structural design.

g. Wall Vibration

Walls must not unduly vibrate due to the impact caused by any part of an adult human body and must neither be dented nor punctured by deliberate punches or kicks by an individual.

C. Electrical Standards

The electrical design must in be accordance with the latest edition of the Philippine Electrical Code (PEC). It must be provided with the basic electrical power and lighting layout, general notes, riser diagram, single line diagram, legends and symbols, load schedule and auxiliary layouts.

a. Lighting and Fixtures

- i. Each classroom of dimension 7m x 9m or 9m x 7m must be provided with at least six (6) units of 32 watts Solar LED light with 5,120 lumens each.
- ii. A duplex convenience outlet (CO) of the grounding type (3-prong-universal type) must be provided on each windowless side of the classroom.
- iii. Two (2) oscillating 16-inch solar wall fan shall be provided for every classroom.



b. Wires for Devices when applicable

- i. Wires shall be properly designed in accordance with Article 3.10 and the grounding system shall conform to Article 2.50 of the PEC.
- ii. Wiring devices must be of modern type and approved for both location and purpose.
- iii. Service Entrance wires for a standard 7m x 9m or 9m x 7m described above must have a size of 8.0 sq.mm minimum if required and must be protected by circuit breaker protection 60 amp for main breaker, 20 amp for lighting, 20 amp for fans, and 20 amp for convenience outlets.

c. Service Entrance

The service entrance shall at least 1.60 meters above the natural grade line (NGL) or 0.30 meter above the established high flood level, whichever is higher.

D. Sanitary and Plumbing Standards

i. Provision of Toilets and Sanitary Facilities

Toilets and sanitary facilities shall be in accordance with the Plumbing Code and the Sanitary Code of the Philippines.

ii. Waste and Vent Line Piping System

The drain, waste, and vent line piping system must be aligned with the American Society for Testing and Materials (ASTM) D-2729, International Standards Organization (ISO) 4435 and ISO 3633.

iii. Waterline Piping System

The system must be aligned with the Deutsche Industrie-Norm (DIN) 1988 for Polypropylene Random Copolymer (PP-R) type 3 pipe and ASTM A53/A53M. The system must provide for a waterline service entrance.

iv. Plumbing Fixtures



These must be aligned with the American National Standards Institute (ANSI)/ American Society of Mechanical Engineers (ASME), A112.19.4m, A1 12.19.3, A1 12.19.5.

v. *Drainage System*

The storm drainage system must be sized in consideration of the rainfall intensities, and roof areas of the school buildings. Provision shall be made for the future installation of rainwater collection system in compliance With R.A. No. 6716 “An Act Providing for the Construction of Water Wells, Rainwater Collectors, Development of Springs and Rehabilitation of Existing Water Wells in all Barangays in the Philippines”.

vi. *Septic Vault*

All concrete septic tanks, if used as the sanitation solution, shall be protected from corrosion by coating with an approved bituminous coat or by other acceptable means.

E. *Mechanical Standards*

All Mechanical systems and installation shall conform to the provisions of the latest edition of the Mechanical Code of the Philippines.

VII. **Monitoring and Evaluation**

a. School Division Office

The School Governance and Operations Division (SGOD) shall monitor and evaluate the construction of school buildings using alternative construction materials to be implemented by the Department of Education.

- i. The DepEd Division Engineer shall monitor and evaluate the construction of school buildings using alternative construction materials to ensure compliance with the approved design and plans.
- ii. A report on the compliance of the construction work with the design and plans shall be submitted to the Education Facilities Division of the DepEd Central Office.

b. Regional Office



The Education Support Services Division (ESSD) shall monitor and evaluate the construction of school buildings to ensure compliance with the approved design and plans.

- i. The DepEd Regional Engineer shall monitor and evaluate the construction of school buildings using alternative construction materials to ensure compliance with the approved design and plans.
- ii. A report on the compliance of the construction work with the design and plans shall be submitted to the Education Facilities Division of the DepEd Central Office.

c. Central Office

The Education Facilities Division shall:

- i. Monitor and evaluate the construction of school buildings using alternative construction materials to ensure compliance with the approved design and plans.
- ii. Review the report received from the field to determine compliance of school building projects with the approved design and plans.
- iii. Consolidate reports of school building projects using alternative construction materials.

VIII. References

- Memorandum of (MOA) between the DepEd and DPWH on the Implementation of CY2017 Basic Educational Facilities Fund (BEFF) dated March 20, 2017
- DepEd Order No. 64, series of 2017
- DepEd Order No. 69, series 2003 entitled DepEd Logo
- National Building Code of the Philippines (NBCP) and its revised Implementing Rules and Regulations (IRR)
- National Structural Code of the Philippines (NSCP), latest edition
- Philippine Electrical Code (PEC), latest edition
- Plumbing Code of the Philippines, latest edition
- Sanitary Code of the Philippines, latest edition
- Mechanical Code of the Philippines, latest edition
- Fire Code of the Philippines (R.A. No. 9514) and its revised Implementing Rules and Regulations (IRR)

IX. Effectivity /Transitory Provisions



This Order shall take effect immediately upon its approval. Provisions and other previous issuances which are inconsistent with this Order are hereby repealed.



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