IMPLEMENTING GUIDELINES OF THE PHILIPPINE ENERGY LABELING PROGRAM FOR CLOTHES WASHING MACHINES

Pursuant to Sections 5 and 9 of Department Circular No. 2020-06-0015, as amended, entitled "Prescribing the Guidelines of the Philippine Energy Labeling Program (PELP) for Compliance of Importers, Manufacturers, Distributors and Dealers of Electrical Appliances and Other Energy-Consuming Products (ECP)", the Implementing Guidelines for Clothes Washing Machines, including the Particular Product Requirements (PPR) and Code of Practice (COPE) are hereby issued for the information and guidance of all those concerned and for compliance by all manufacturers, importers, distributors, dealers, retailers and other key stakeholders.

1. **Particular Product Requirement (PPR) for Clothes Washing Machines.** The PPR for Clothes Washing Machines provides the requirements for Clothes Washing Machines and other relevant information:

1.1 Scope

This PPR covers fixed speed and variable speed clothes washing machines, with minimum capacity of 5kg up to 22kg, that operates using electricity (rated at 230 volts and 60 Hz) as main power source with or without heating devices utilizing cold and/or hot water supply. The following are the categories:

1.1.1 Fixed speed / variable speed clothes washing machines.

a. Manual
- Single tub
- Twin tub

b. Automatic
- Top loading
- Front loading

Note:

a. *Clothes Washing machines with rated washing capacity beyond 22kg are not covered in this PPR.*

b. *Spin dryers/water extractors are not covered in this PPR.*

1.2 Definition of Terms

For the purpose of this PPR, the following definitions and those in PNS IEC 60456 – Clothes washing machines for household use – Methods for measuring the performance and its future amendments shall apply:

Applicants - refers to manufacturers, importers, distributors, or dealers.

Capacity - refers to the maximum mass, in kg, of dry textiles of a particular type that can be treated in the washing machines on the programme selected.

Clothes Washing Machines – refers to an encased assembly designed as a unit and for cleaning and rinsing of textile using water, which may also have a means of extracting excess water from the textiles.

Automatic Clothes Washing Machines - refers to a washing machine where the load is fully treated by the machine without the need for user intervention at any point during the programme prior to its completion.

Manual Clothes Washing Machines - refers to a washing machine where the machine requires user intervention at one or more points during the programme to enable the machine to proceed to the next operation.

a. **Single-Tub Washer** - refers to a single drum washer that contains the clothes to be washed, rinsed or soaked and to be filled manually with water then rotated at a certain speed to remove the dirt from the clothes.

b. **Twin-Tub Washing Machines** - refers to a twin-tub washing machine as the name implies, is a washing machine that has two compartments (tubs). One tub is for washing the clothes, and the other is for spinning the clothes to dry. It is a type of machine which requires user intervention that includes transfer of wet clothes by hand from one tub to the other; manual filling of water (non-automatic water level); and setting this machine to run a spin cycle separately to the wash cycle and finally drain the water. This type of machine is always top loading.

Cycle - refers to the complete washing process, as defined by the programme selected, consisting of a series of different operations (wash, rinse, spin, etc.) and includes any operations that occur after the completion of the programme.

Cycle Time - refers to the time from the initiation of the programme (excluding any user programmed delay) until all activities ceased. Activities are considered to have ceased when the power consumption reverts to a steady state condition that persists indefinitely without user intervention. If there is no activity after the end of the programme, the cycle time is equal to the programme time.

Energy Consumption - refers to the energy consumed over a programme (called the programme energy), which is equivalent to the sum of the electrical energy, any cold-water correction and the energy embodied in any hot water.

Energy Efficiency Factor (EEF) - refers to the ratio of the capacity of the clothes washing machine, in kg, to the energy consumption, in kWh per cycle.

Energy Efficiency Performance Rating (EEPR) - refers to the product's star rating, which is based on the ranges of EEF and is stated on the energy label.

Energy Efficiency Rating - as indicated in the energy label, pertains to the rated Energy Efficiency Factor (EEF) of the clothes washing machines.

Generic Models - refers to the range of models similar to the base model where all have the same major physical characteristics, construction, system design and other performance characteristics.

Programme - refers to the series of operations which are pre-defined within the washing machine, and which are declared by the manufacturer as suitable for washing certain textile types.

Programme Time - refers to the time from the initiation of the programme (excluding any user programmed delay) until the completion of the programme. If the end of programme is not indicated, the programme time is equal to the cycle time.

Spin Extraction – also known as water extraction, refers to the water-extracting function by which water is removed from textiles by centrifugal action. This is included as a function (built in operation) of an automatic washing machine but may also be performed in a spin extractor.

Spin Extractor - otherwise known as Spin Dryer or Water Extractor, refers to a water extracting appliance in which water is removed from textiles by centrifugal action.

Washing Performance - refers to the ratio of the average sum of the reflectance measurement of all stain test strips of test washing machines to the average sum of the reflectance measurement of the reference machine.

1.3 Normative Reference/s

The Clothes Washing Machines covered under this PPR shall be tested, as applicable, according, but not limited to the following standards and their future amendments.

PNS IEC 60456:2013 Clothes washing machines for household use – Methods for measuring the performance.

Considering the regular updating of standards, the latest edition of the PNS shall be used as reference. It is understood that future amendments of the PNS indicated in the PPR shall be applied after its promulgation upon the advisory of DOE. A transition period of one (1) year shall be provided to give ample time to all stakeholders to adjust and conform to the new requirements, if any.

1.4 Sampling Method for Verification Testing

A unit for a specific product model shall be randomly tagged from the sampling location.

Note: If a model (either base or generic) has been verified, the result of the test shall apply to all the base or generic models declared for that model.

1.5 Specific Guidelines for the Conduct of Verification Testing

All general technical provisions in the Guidelines shall apply, including the following:

1.5.1 Prior to testing, there shall be no preparation, modification or adjustment in any manner on a test sample and no special quality control, testing or assembly procedure on a test sample, or in any parts and sub-assemblies thereof, that is not normally performed during production and assembly.

Test methods to verify conformity to the claimed information in the label shall be as specified in Section 1.3.

1.5.2 Sample shall be tested at a standard voltage of 230V ± 1%, 60Hz ± 1%.

1.5.3 Testing Programme

1.5.3.1 Automatic Clothes Washing Machines

a. The Programme to be used for automatic clothes washing machine testing shall be in accordance with the manufacturer's instructions, provided that the programme selected is intended for the similar purpose when compared to the programme on the reference washing machine. Refer to Annexes E and F of PNS IEC 60456 for guidance.

b. The water temperature shall be 60°C ± 2°C.

1.5.3.2 Manual Clothes Washing Machines

a. Programme to be used for manual clothes washing machine testing shall be in accordance with the manufacturer's instruction regarding the settings and operation of the appliance. Where no specific instructions

are provided, the test procedure for manual washing machine in Annex M of PNS IEC 60456 shall be followed.

b. The recommended reference programme on the reference machine in accordance with Annex M of PNS IEC 60456 is Cotton at 20°C.

c. The water temperature shall be 20°C ± 2°C.

1.5.3.3 The Energy Consumption of the water extraction function is included in the total energy consumption. The water extraction performance is not covered in the PPR.

1.5.4 The water to be used shall be soft water with total water hardness of 0.5± 2% millimoles per liter of Calcium Carbonate ($CaCO_3$).

1.5.5 The base load to be used shall be in accordance with the Annex C of PNS IEC 60456.

1.6 Inspection of Generic Models

1.6.1 A model will not be considered generic if there is a difference in component parts that may affect the performance and/or energy consumption of the clothes washing machines, including capacity (kg), cycle timer, nameplate ratings, water volume, number of tubs, type of motor, loading and operation, among others.

1.6.2 In case of doubt, DOE-EPRED shall require the inspected units to be subjected to performance testing.

1.7 Minimum Energy Performance

1.7.1 The performance data that will be declared shall be based from Washing Performance of at least 0.6.

1.8 Tolerances

The following tolerances shall apply to all covered clothes washing machines for households use:

1.8.1 Energy Efficiency Factor shall not be less than 95% of the rated EEF of the test sample.

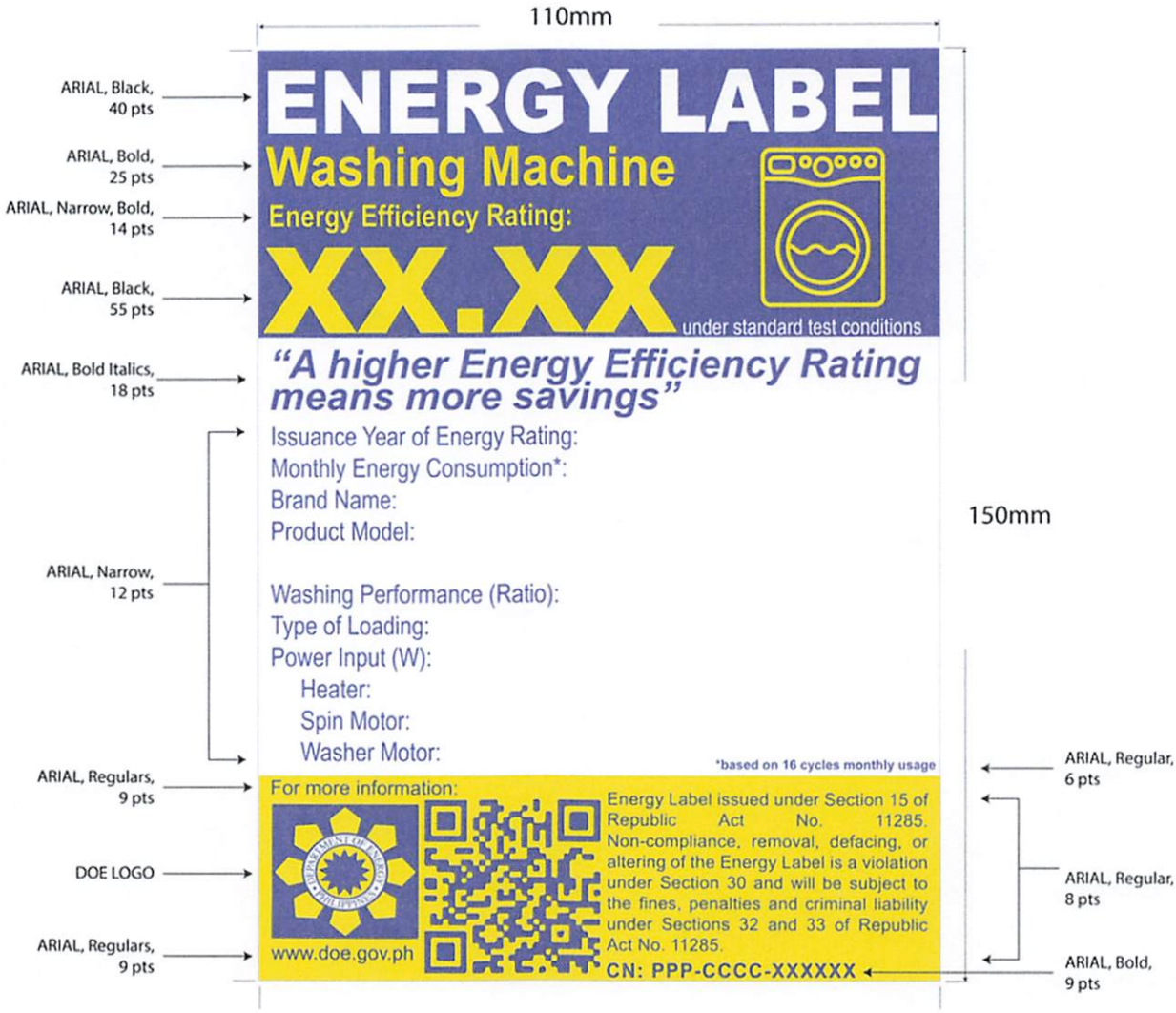
Note:

- ***a.*** *Measured Energy Consumption shall be rounded-off to the nearest 0.01 kWh. The rules of rounding-off shall be followed.*
- ***b.*** *The measured Energy Consumption shall be rounded-off first before determining the tolerance.*
- ***c.*** *Verdict shall be based on the rounded-off value.*

1.8.2 Energy consumption shall not be more than 110% of the rated energy consumption of the test sample.

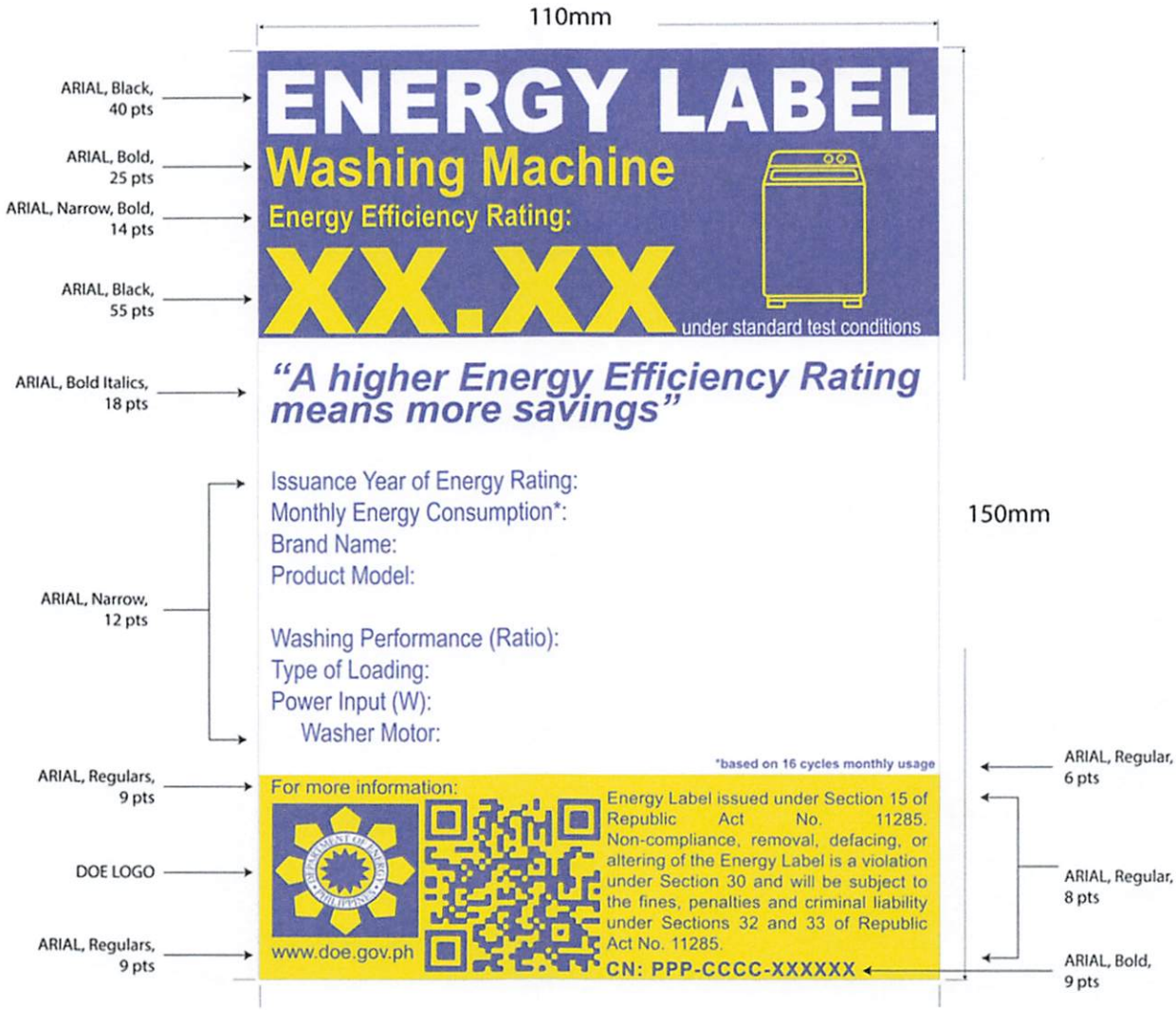
1.8.3 Washing performance shall not be less than 90% of the rated washing performance of the test sample.

1.9 Specifications and Dimensions of Energy Label



Swatches

Pantone Blue 072	C100M98Y2K3 R44G49B140 Web 2B318B
Pantone 3945	C0M0Y100K0 R244G229B1 Web F3E501



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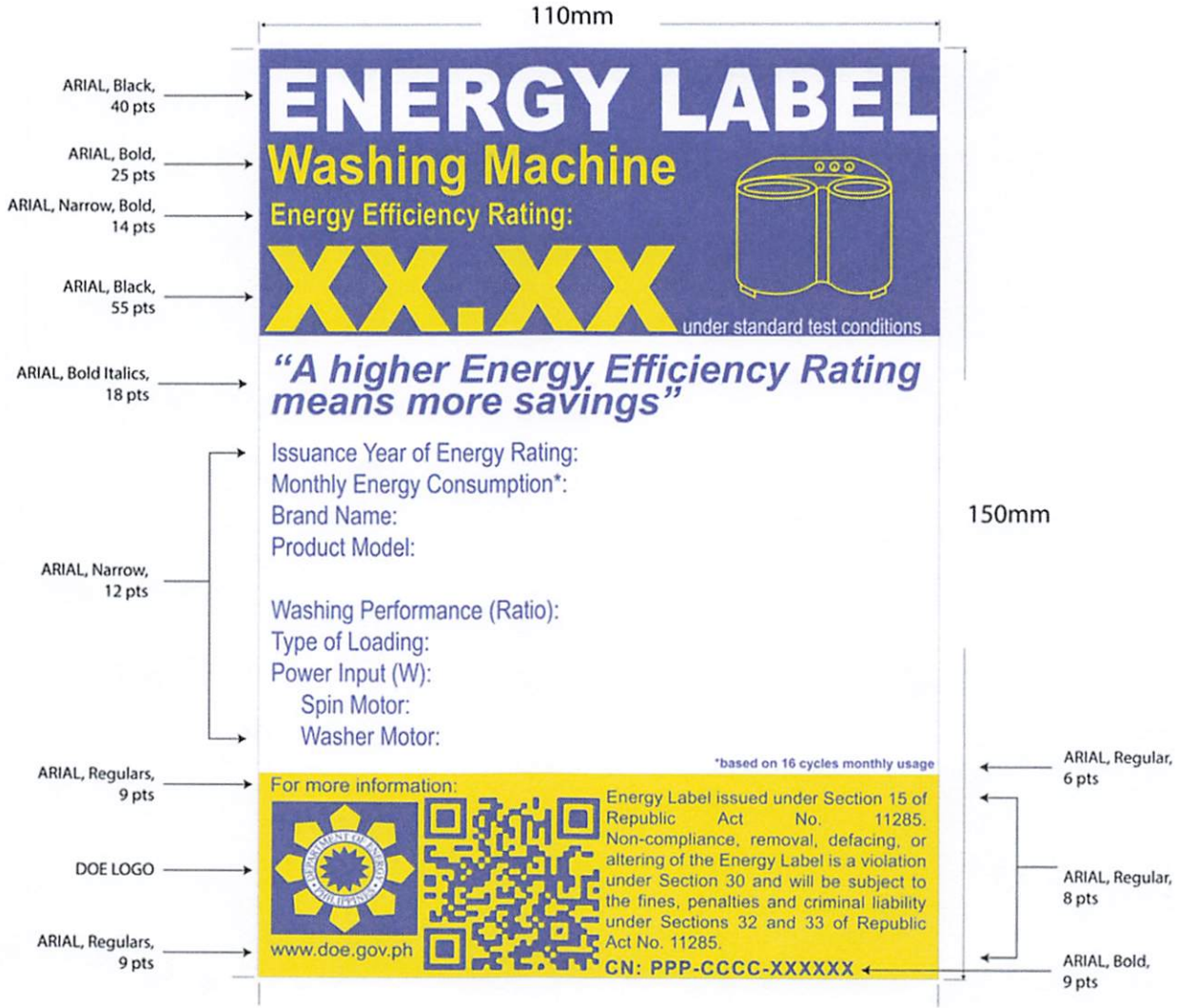

Swatches

Pantone Blue 072	C100M98Y2K3 R44G49B140 Web 2B318B
Pantone 3945	C0M0Y100K0 R244G229B1 Web F3E501

1.9.1 Products on sale shall have the energy label affixed at the front of the unit or its control panel, whichever is more visible.

1.10 Correction of Performance Ratings

1.10.1 Applicant has the option to downgrade the claimed ratings to comply with the requirements of the standard based on the result of the verification test.

1.10.2 New claims shall conform to the tolerances specified in Section 1.8.

2. Code of Practice on Energy Labeling of Products. Pursuant to Section 15 of the Energy Efficiency and Conservation (EEC) Act, the Code of Practice on Energy Labeling of Products (COPE) provides for the calculation methods of the following:

2.1 The Clothes Washing Machine Energy Efficiency Rating in the DOE Label is based on the Energy Efficiency Factor (EEF) for clothes washing machine, which is calculated as follows:

$$EEF = \frac{Capacity\ (kg)}{W_{total}}$$

Where:

W_{total} refers to the Energy Consumption, as defined in Section 1.2.

Capacity refers to the Capacity as defined in Section 1.2.

The Energy Efficiency Rating reflected on the DOE Energy Label shall correspond to the claimed Energy Efficiency Factor value. The Energy Efficiency Rating shall be adjusted accordingly (as needed) once the product has undergone verification testing.

2.2 For the estimation of monthly energy and water consumption (based on a specified monthly washing cycle), which are calculated are as follows:

$$Monthly\ Energy\ Consumption\ (kWh) = W_{total} \times N$$

$$Monthly\ Water\ Consumption\ (liter) = Total\ water\ consumption \times N$$

Where:

N is the number of washing cycles per month. With regards to the DOE Energy Label, this parameter is assumed to be 16 cycles per month.

W_{total} refers to the Energy Consumption as defined in Section 1.2.

Total Water Consumption is the measured water consumption throughout the programme (liter).

Note: Energy consumed from Spin Extraction / Water Extraction will be included in the Total Energy Consumption if water extraction is included in the completion of a cycle of the washing machine.

2.3 For the estimation of **monthly electricity cost**, the calculation is as follows:

$$Monthly\ Electricity\ Cost = Monthly\ Energy\ Consumption\ (kWh) \times Electricity\ Price$$

Where:

Electricity Price is the prevailing peso per kWh, as indicated in the electricity bill issued by an electric power distribution company.

2.4 For the estimation of **Monthly Greenhouse Gas (GHG) Emission** due to monthly electricity consumption, the calculation is as follows:

Monthly GHG Emission = Monthly Energy Consumption (kWh) x *Emission Factor*

Where:
Emission Factor is the Simple Operating Margin (OM) Emission Factor derived using the power grid statistics and is available in the DOE Website.

Note: The unit of the calculated GHG emission shall be in kg CO_2 per kWh

3. Clothes Washing Machine Product Registration. Applicants may register their clothes washing machine models through the PELP Online Product Registration, which includes the information indicated in the Product Registration Form – Clothes Washing Machine, among others. These procedures also apply to both manufactured and imported institutional products.

Only PELP-registered companies may proceed with the product registration, which is also a prerequisite for DOE Label Issuance.

3.1 Product Registration Form – Clothes Washing Machines

The Product Registration Form shall indicate the product's details, details of the testing facility used and the product's performance specifications, in accordance with the normative references stated in section 1.3. The Product Registration Form shall contain, at the minimum, the following information:

Product Test Report Details		
Name of Testing Laboratory		
Country of Testing Laboratory		
ISO 17025 Accreditation Body		
Accreditation Membership/Affiliation		
Laboratory Report Issuance Date		
Accreditation Certificate Expiration Date		
Product Details		
Product Category		Cleaning and Laundry Appliances
Product		Clothes Washing Machine (CWM)
Particular Product		☐ Washer ☐ Washer with Dryer
Type	Loading	☐ Top load WM ☐ Front load WM
	Tub	☐ Single - Tub WM ☐ Twin - Tub WM
	Operation	☐ Automatic WM ☐ Manual WM
	Motor	☐ Single Speed ☐ Variable Speed (Inverter)
	Model Type	☐ Base ☐ Generic
Product Performance Specification		
Brand Name		
Model Number/Code		
Product Name		
Year Model		
Country of Origin		

Original Equipment Manufacturer (OEM)	
Capacity (kg)	
Power Input (Watts)	
Heater (Watts)	
Spin Motor Rating (Watts)	
Washer Motor Rating (Watts)	
Off mode power consumption (kWh)	
Left on mode power consumption (kWh)	
Energy Consumption (kWh)	
Total water consumption (liter)	
Energy Efficiency Factor (EEF)	
Programme time	
Remaining Moisture Content (%) (as applicable)	
Rinsing Index (as applicable)	
Washing Performance (Ratio)	
Voltage (V)	
Frequency (Hz)	
Other Parameters	

Note: Number of samples tested for product registration purposes will be up to the Applicant. Test report shall be valid up to one (1) year from the date issued.

4. **Effectivity.** This IG shall take effect fifteen (15) days following its publication in at least two (2) newspapers of general circulation. Copies of this IG shall be filed with the University of the Philippines Law Center – Office of the National Administrative Register.

Issued at Energy Center, Bonifacio Global City, Taguig City.

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