



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
MANILA

097. 13 DPWH
02. 07. 2013

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DEPARTMENT ORDER) SUBJECT : STAR RATING OF DPWH REGIONAL
No. 11) AND DISTRICT MATERIALS TESTING
Series of 2013) LABORATORIES
02.07.13

To enhance the materials testing capability of the implementing offices and improve quality control in project implementation, a Star Rating System for testing laboratories of the Regional and District Offices is hereby adopted and the corresponding guidelines for its implementation are hereto prescribed.


The System shall classify testing laboratories into One-Star, Two-Star or Three-Star categories based on the following criteria:

1. Availability of testing equipment and apparatus
2. Capability, competence and knowledge of the laboratory personnel to conduct specific tests on materials
3. Observance of health and safety standards
4. Working area of the laboratory
5. Calibration of apparatus/equipment
6. Third-party certification

All Regional Offices and all 1st class District Offices shall exert efforts to attain One-Star rating status within one (1) year from the effectivity of this Order, while 2nd class and 3rd class District Offices shall be given two (2) years. Regional Offices shall upgrade their status to Two-Star rating within two years. Thereafter, all laboratories shall work towards upgrading their star rating.

The Bureau of Research and Standards (BRS) shall initially star rate all Regional and District laboratories. Henceforth, upgrading of star ratings shall be made upon request of the head of office and upon evaluation by the BRS, which shall recommend to the Secretary the upgrading of the star rating, if found meritorious. The Star Rating shall replace the rating criteria "Adequacy/Reliability of Laboratory Equipment and Facilities of the Revised Guidelines for Rating Quality of Works in Project Implementation."

This Order shall take effect immediately.


ROGELIO L. SINGSON
Secretary

Department of Public Works and Highways
Office of the Secretary



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GUIDELINES ON STAR RATING THE TESTING CAPABILITIES OF DPWH REGIONAL AND DISTRICT LABORATORIES

CRITERIA	CATEGORY		
	ONE STAR	TWO STAR	THREE STAR
<p>1. Laboratory Space Requirement</p> <p>The prescribed area for each category is intended only for laboratory working area and excludes the space for the laboratory staff. Provision of electricity, water supply, fire temperature-controlled room, fire extinguishers and/or automatic sprinklers, and personal protective equipment are requisites for the health and safety of the laboratory personnel.</p>	<p>ONE STAR</p> <p>30 – 60 sq.m.</p>	<p>TWO STAR</p> <p>61 – 80 sq.m.</p>	<p>THREE STAR</p> <p>>81 sq.m.</p>
<p>2. Availability of Laboratory Equipment</p>	<p>Has apparatus/equipment for the conduct of quality tests on soil, concrete, asphalt aggregates and strength tests of concrete specimens. (Annex B-List of Tests.)</p> <p>A laboratory found to have no prescribed apparatus/equipment to conduct any two (2) or more tests required in this category shall be considered "failed" in this criterion.</p>	<p>Has complete laboratory apparatus/equipment under One Star category plus the laboratory apparatus/equipment required for the quality tests on Asphaltic Materials/Asphalt Mixes and Portland Cement (Annex B-List of Tests).</p> <p>A laboratory found to have no apparatus/equipment to conduct any of the tests required in this category shall be rated failed.</p>	<p>Has complete laboratory apparatus/equipment under Two Star category plus the laboratory apparatus/equipment required for the quality tests on RCCP, RSB, CHB, Paint and any of six (6) tests listed in Annex B for Miscellaneous Materials. The laboratory must have complete apparatus/equipment to conduct tests under this category. Otherwise, it will be rated failed in this category.</p>

<p>3. Qualification Requirement of Personnel</p>	<p>The numbers of engineers in the Materials Quality Control Division/Section is equal to or more than the plantilla positions.</p>	<p>At the District Offices, at least two (2) or more engineers in the Materials Quality Control Section are accredited DPWH Materials Engineer. At the Regional Office, at least five (5) more engineers are accredited DPWH Materials Engineer.</p>	<p>All engineers in Materials Quality Control Division/Section in the Regional/District level are accredited DPWH Materials Engineer.</p>
<p>4. ISO/IEC 17025:2005 Certification</p>	<p>Not required</p>	<p>Not required</p>	<p>Required</p>

LIST OF TESTS ON CONSTRUCTION MATERIALS

Materials	Tests
<i>Soil Aggregates, Concrete Aggregates and Asphalt Aggregates</i>	
	Sieve Analysis (Wet & Dry)
	Liquid Limit and Plastic Limit
	Moisture Content
	Fractured Face
	Laboratory Compaction
	Field Density
	Abrasion
	CBR
	Specific Gravity / Absorption
	Soundness
	Unit Weight
	Organic Impurities
	Mortar Strength
	Clay Lumps
	Stripping
<i>Concrete (Beam, Cylinder & Cores)</i>	
	Flexural Strength
	Compressive Strength
	Thickness

Asphaltic Materials and Asphalt Mixes

	Quality test on Asphalt Cement (Penetration, Ductility, Sp. Gravity, Loss on Heating, Spot test, Solubility & Flash Point)
	Quality test tests on Emulsified Asphalt (Viscosity, Distillation, Cement Mixing, Sieve tests, Specific Gravity, Storage Stability, Solubility. Ductility & Penetration)
	Quality test on Cutback Asphalt (Sp. Gravity, Distillation, Viscosity, Spot test, Penetration, Ductility, Solubility, Flash Point)
	Joint Filler (Penetration, Flow, Pour Point and Safe Heating)
	Preformed Joint Filler (Compression & Recovery, Absorption, Dimension & Density)
	Bituminous Mix (Extraction, Grading, Specific Gravity and Stability (Wet & Dry and Marshall)

Portland Cement

	Physical and Chemical tests (Magnesium Oxide, Sulfur Trioxide, Insoluble Residue, Loss on Ignition, Air Content, Specific Gravity, Normal Consistency, Time of Setting: Vicat/Gillmore, Autoclave Expansion, Compressive Strength: 3, 7 & 28 days and Fineness # 200 Sieve / Blaine Air Apparatus)
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Miscellaneous Construction Materials

<i>Reinforcing Steel Bars (Deformed & Plain)</i>	(Tensile / Yield Strength & Elongation, Bending, Variation in Mass, Deformed Measurement and Phosphorous Content)
<i>Structural Steel & Guardrail</i>	(Tensile, Yield, Elongation, Thickness & Zinc Coating)
<i>Gabion & Tie Wires</i>	(Tensile, Yield, Elongation, Dimension & Zinc Coating)
<i>Concrete Hollow Block (CHB)</i>	(Compressive Strength, Water Absorption, Moisture Content and Dimension)
<i>Pavement Studs</i>	(Proof Load (Tension)
<i>Reinforced Concrete Pipes</i>	(External Load Crushing Strength, Reinforcement Measurement, Dimension Measurement, Water Absorption & Moisture Content)
<i>Thermoplastic Paints</i>	(Specific Gravity, Softening Point, Drying Time, Appearance of Paint, Vehicle Binder, Glass Beads Content, Glass Beads Grading and TIO2/Chrome Yellow
<i>Reflectorized Traffic Paint</i>	(Specific Gravity, Extraction of Pigment, Drying Time, one-Volatile Matter, Percent Glass Beads, Grading & Glass Beads, Percent Lead Chromate)

<i>Latex, Flatwall & Quick Dry Enamel</i>	(Sp. Gravity, Extraction of Pigment, Drying Time, Non-Volatile Matter, Course Particles & Titanium Dioxide)
<i>Aluminum, Red Lead, Red Oxide Primer & Other Paints</i>	(Quality Test)
<i>Preformed Joint Filler</i>	(Compression & Recovery, Absorption, Dimension & Density)
<i>Asphalt Joint Filler</i>	(Penetration, Flow, Pour Point & Safe Heating)
<i>Hydrated Lime</i>	(Calcium Oxide (CaO, Magnesium Oxide (MgO, Loss on Ignition and Grading)
<i>G. I. Sheet & Galvanized Pipes</i>	(Zinc Coating, Coating Bend test & Dimension)
<i>Reflective Sheeting</i>	(Thickness, Adhesion, Heat Resistance, Solvent Resistance & Reflectivity)
<i>Fine Grain Soils</i>	(Grading, Wash test, PL-LL, Specific Gravity, Hydrometer & Moisture Content)
<i>Curing Compound</i>	Tests Appearance on Concrete Surface, Character of the Film, Drying Time, Water Retention test.
<i>Water for Concreting</i>	(Ph test, Total Solids, Compressive Strength, 7 days and Time of Setting)