

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

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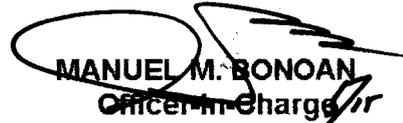
DEPARTMENT ORDER)
No. 27)
Series of 2007)
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SUBJECT: DPWH Standard Specifications
for Dampproofing, Item 1034

In line with the mandate of the Department in providing effective standard specifications to be used in the implementation of various infrastructure projects and in view of the need of setting standard specifications for dampproofing, the attached **DPWH Standard Specifications for Dampproofing, Item 1034**, are hereby prescribed, for the guidance and compliance of all concerned.

These specifications shall form part of the revised edition of the DPWH Standard Specifications (Volume III – Building, Ports and Harbors, Flood Control and Drainage Structure and Water Supply Systems).

This Order shall take effect immediately.


MANUEL M. BONOAN
Officer-in-Charge



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**DPWH Standard Specification for
ITEM 1034 - DAMPPROOFING**

1034.1 Description

This item shall consist of furnishing asphalt and primer for dampproofing, labor, tools, equipment and other facilities and undertaking the proper installation works required as shown on the Plans and in accordance with this specification.

1034.2 Material Requirements

1034.2.1 Asphalt

Asphalt for mop coat shall conform to the requirements of Item 702, Bituminous Materials, subsection 702.6 (a).

1034.2.2 Primer

Asphalt primer shall conform to the requirements of Item 702, Bituminous Materials, subsection 702.6 (d).

1034.3 Construction Requirements

Dampproofing coating shall not be used if the concrete surface involve was subjected to a continuous or even an intermittent head of water. Drainage system shall be provided to prevent development of such a head. Dampproofing coating shall not be used to bridge or seal cracks, so that if cracks are present or will develop later, dampproofing will not be effective.

1034.3.1 Surface preparation

The surface preparation shall be in accordance whenever applicable with subsection 1016.3.1 of item 1016, Waterproofing.

Prior to the application of a barrier material, it is generally considered necessary to test for adequacy of surface preparation. Surface preparation shall conform to ASTM C811.

1034.3.2 Release agents on forms

Release agents on forms, such as oil, wax, grease and silicone, which will transfer to the concrete surface during placement, shall not be used if a dampproofing barrier system will be applied later. Trademark paint systems approved by the Engineer applied to forms and formulated to prevent contamination of the concrete surface shall be used.

1034.3.3 Tests for surface quality prior to application

The quality of the concrete surface is an important factor affecting adhesion of dampproofing barrier systems. Tests for cleanliness and dryness of the surface shall be conducted prior to dampproofing the surface. The number of tests and the areas to be tested shall be as directed by the Engineer.

1034.3.3.1 Cleanliness of surface

On a dusty condition, wipe the surface with a dark cloth. If white powder sticks to the cloth, the surface is considered to be too dusty and therefore unsatisfactory to receive dampproofing system.

On an oily condition, sprinkle water on the dried concrete surface. If the water spreads out immediately instead of standing as droplets, it may be concluded that the surface is not contaminated by oils or dust. The test will not reveal the presence of other surface contaminants such as carbonates and alkalis.

The pH of the concrete shall be tested in accordance with ASTM D 4262. A pH below 4 shall be considered unacceptable.

1034.3.3.2 Dryness of surface

In cases where there is a question about the moisture content, evaluate the concrete in accordance with Test Method D 4263 or other suitable test procedures and treat surfaces in accordance with the surfacing manufacturer's recommendations.

1034.3.4 Ambient conditions prior to application.

Dampproofing should be applied in the afternoon after the concrete surface had been exposed to sun and air for at least six (6) hours.

1034.3.5 Application

Curing concrete or masonry surface shall be in accordance with subsection 407.3.8 of Item 407, Concrete Structures (Volume II) except for the use of liquid membrane curing compound. Allow concrete surface to dry at least ten (10) days after completion of curing. Apply dampproofing material to a dry, clean, reasonably smooth surface that is free of dust and loose materials. Apply dampproofing material in dry weather when the air and surface temperatures are 7°C or higher.

Apply primer to the surface and allow it to dry. Apply 2 coats of asphalt at the rate of approximately 1.25 kgs. per square meter of surface per coat. Apply prime coat and asphalt coats uniformly, covering the surface, and thoroughly work them into the surface. Make the total of the final 2 asphalt coats approximately two (2) millimeters thick. Allow asphalt coats to harden before allowing contact with water or backfill material.

1034.4 Method of Measurement

This item shall be measured in square meters for areas actually applied with dampproofing materials and accepted to the satisfaction of the Engineer.

1034.5 Basis of Payment

The accepted quantities, measured as prescribed in Section 1034.4 shall be paid for at the Contract unit price for Dampproofing work which price and payment shall be full compensation for furnishing and applying dampproofing materials including the use of equipment and tools, labor and incidentals necessary to complete the work.

Payment will be made under:

Pay Item No.	Description	Unit of Measurement
1034	Dampproofing	Square meter

DEPARTMENT ORDER
No. 27 SERIES OF 2006
ANNEX PAGE 4 OF 4

References:

1. Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-96 1996) – U.S. Department of Transportation Federal Highway Administration.
2. American Concrete Institute (ACI), Committee 515 (ACI 515.1R-79) "A Guide to the Use of Waterproofing, Dampproofing, Protective, and Decorative Barrier Systems for Concrete", 1985
3. American Society for Testing and Materials - Designation: D 449 "Standard Specification for Asphalt Used in Dampproofing and Waterproofing"
4. American Society for Testing and Materials - Designation: D 41 "Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing"
5. American Society for Testing and Materials - Designation: D 811 "Standard Specification for "Standard Practice for Surface Preparation of Concrete for Application of Chemical-Resistant Resin Monolithic Surfacing"
6. American Society for Testing and Materials - Designation: D 4262 "Standard Test Method for pH of Chemically Cleaned or Etched Concrete Surfaces"
7. American Society for Testing and Materials - Designation: D 4263 "Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method"
8. DPWH Standard Specification For Highways, Bridges and Airports, Volume II (2004)
9. DPWH Standard Specification For Building, Ports and Harbors, Flood Control and Drainage Structure and Water Supply Systems, Volume III (1995)


A.J. DELAVEGA