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WEST VIRGINIA DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PAINT TESTING METHODS

1.0 PURPOSE

1.1 To set forth the standard test methods to be used in analyzing paint.

2.0 SCOPE

2.1 This procedure replaces the following Material Procedures.

2.1.1 MP 708.00.20 through 708.00.27

2.1.2 MP 708.01.20 through 708.01.29

2.1.3 MP 708.02.20 through 708.02.29

2.1.4 MP 708.03.20 through 708.03.29

3.0 REFERENCES

3.1 American Society for Testing and Materials (ASTM INTERNATIONAL) Section 6, Paint.

3.2 Federal Test Method Standard Number 141B.

4.0 TESTING METHODS

4.1 Table I contains the following information:

4.1.1 Test

4.1.2 Reference

4.1.3 Test Method Number

5.0 GENERAL INFORMATION

5.1 Adhesion
(Film thickness greater than 5 mils (125 µm) 3.1 D3359 (METHOD A)

Adhesion
(Film thickness 5 mils (125 µm) or less) 3.2 D3359 (METHOD B)

5.2 Test Panel Preparation

5.2.1 Panels for testing shall meet the requirements Federal Test Method 2011.

5.2.2 Panels that receive hot-dip galvanizing should be blast clean to near white finish (SSPC-SP- 10) and galvanized in accordance with the AASHTO M-111. Average galvanized coating thickness should be 1.8 Mils.

5.2.3 Coating applied over galvanizing will be done in accordance with the manufacturer's product data sheets. If the data sheet does not show how to apply the coating over galvanizing, then the manufacturer shall furnish this information in writing . Failure to provide this information could result in incorrect preparation of the galvanized surface, thus resulting in failure of the paint system.

5.2.4 All coatings shall be applied at the normal field application thickness. Primers will be applied over panels that have been cleaned to a near white (SSPC-SP-10) condition. All coatings, which are part of a coating system, shall be applied over the previous coating in the system.

5.3 Curing Conditions

5.3.1 All coatings except zinc primers shall be cured seven days prior to testing. The curing will be done in the laboratory under normal laboratory conditions of temperature and humidity.

5.3.2 Zinc primers shall be cured, as in 5.3.1 except the cure period will be 10 days.

All coatings, which require chemical resistance testing, will be cured an extra 24 hours at 221-230° F (105-110 C).

- 5.4 Chemical analyses of pigments shall be conducted by ASTM test methods. In cases where no ASTM test method is available, Federal test methods or a mutually agreed to procedure shall be used.
- 5.5 Any test method not included in Table I shall be conducted according to ASTM, Federal Test or mutually agreed to procedures.
- 5.6 Initial approval of a paint requires that all specified tests be conducted. Subsequent batches, at the Division's option, may have randomly selected tests conducted.
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Attachment

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ATTACHMENT 1

TABLE I

	Reference	Test Methods
1. Density (Weight/Gallon)	3.1	D1475
2. Consistency (Viscosity)	3.1	D562
3. Drying Time	3.1	D1640
4. Drying (Traffic Paint-No Pick Up)	3.1	D711
5. Pigment - Vehicle	3.2	4021
6. Total Solids	3.1	D2369
7. Nonvolatile Vehicle	3.2	4051
8. Coarse Particles	3.1	D185
9. Fineness of Grind	3.1	D1210
10. Flexibility	3.2	6221
11. Condition in Container	3.2	3011
12. Water	3.2	4081
13. Color	3.1	D2244
14. Working Properties	3.2	4541, 4321,4331
15. Compatibility	3.2	4203
16. Storage Stability	3.1	D1849
17. Specular Gloss (60°)	3.1	D523
18. Skinning	3.2	3021
19. Chemical Resistant (Spot Test)	3.1	D1308
20. Infrared Scan	3.1	D2621
21. Salt Spray	3.1	B117
22. Accelerated Weathering	3.1	G53
23. Leafing	3.1	D480
24. Adhesion Section	5.1	This MP
25. Chemical Analysis of Pigments	3.1	This MP
26. Sampling	3.1	D3925