

ALABAMA DEPARTMENT OF TRANSPORTATION
PROCEDURE FOR EVALUATION AND MAINTENANCE OF

LIST III-1

COATING SYSTEMS FOR STRUCTURAL STEEL

- | | | |
|----|--|--|
| 1. | Material: Coating systems for structural steel. | Montgomery, AL 36110 |
| 2. | Specification: Sections 521 and 855 | 6.1 Submittal fees according to Department procedure ALDOT-355. |
| 3. | Jurisdiction: Product Evaluation Board, Chemical Laboratory | 6.2 Manufacturer will submit 'baseline' values for each product of the coatings system and one pint of material for each component of paint for wet sample testing. |
| 4. | Job Acceptance Requirements: No Job Control samples required if material works satisfactorily. If problems occur in the shop or field, the inspector should investigate and take samples. | 6.3 Manufacturer shall submit product data sheets to provide all pertinent information relative to the product to be evaluated, including, but not limited to, manufacturer's specifications, mixing instruction, recommended application procedure and rate, typical analysis and Materials Safety Data Sheet (MSDS). |
| 5. | Project Engineer's Responsibility: Check and assure that the materials are on the approved list. The project engineer should insure that materials are stored, mixed and applied correctly. These coatings are set up as systems of a prime, intermediate and topcoat. The project engineer should obtain written confirmation from the contractor stating the products selected from the specified system (i.e. if system 1A is specified on the plans, the contractor should designate whether he will use 1A-1, 1A-2, etc). He should then verify that the field applied coatings are from the same system as the shop applied coatings. | 7. Performance Evaluation: The performance evaluation shall be performed in accordance with AASHTO R 31. The paint system shall meet the following acceptance criteria: |

Blister Value Conversion Table

Blister Size	Blister Frequency			
	Few	Medium	Medium Dense	Dense
#8	9	8	7	6
#6	8	7	6	5
#4	7	6	5	4
#2	6	5	4	3
#1	5	4	3	2

Performance Criteria

	Zinc Paint Systems	
	Inorganic Zinc Primer	Organic Zinc Primer
Rust Criteria after 5000 hrs exposure to Salt Fog Resistance Test in accordance with ASTM B 117		
Maximum Creep,mm- Evaluated in accordance with AASHTO R 31, Subsection 9.2.2.2.	4	4
Maximum Average Creep,mm- Evaluated in accordance with AASHTO R 31, Subsection 9.2.2.2.	2	2
Blister Criteria after 4000 hrs exposure to Salt Fog		

6. **Producer's Initial Requirements:** Companies wishing to have products evaluated for placement on this list must contact the American Association of State Highway and Transportation Officials (AASHTO) Product Evaluation & Audit Solutions (formerly National Transportation Product Evaluation Program (NTPEP)):

555 12th Street NW, Suite 1000
Washington, D.C. 20004
(202) 624-5800

<https://transportation.org/product-evaluation-and-audit-solutions/>

-or-

Search: "AASHTO Product Evaluation and Audit Solutions"

After the product is evaluated by NTPEP and the results printed in the NTPEP Report, vendor must furnish the Department with a copy of the report and submit a request in writing to the:

Product Evaluation Board
Alabama Department of Transportation
3704 Fairground Road

Resistance Test in accordance with ASTM B 117		
Minimum Conversion # - Blistering evaluated in accordance with ASTM D 714. Blister size and frequency converted using blister conversion table.	8	7
Rust Criteria after 5040 hrs(15 cycles) exposure to Cyclic Weathering Resistance Test in accordance with ASTM D 5894		
Maximum Creep, mm- Evaluated in accordance with AASHTO R 31, Subsection 9.2.2.2.	4	12
Maximum Avg. Creep, mm- Evaluated in accordance with AASHTO R 31, Subsection 9.2.2.2.	2	5
Blister Criteria after 4032 hrs (12 cycles) exposure to Cyclic Weathering Resistance Test in accordance with ASTM D 5894		
Minimum Conversion #- Blistering evaluated in accordance with ASTM D 714. Blister size and frequency converted using blister value conversion table	9	8
Adhesion Criteria -Minimum pull-off strength shall be tested in accordance with ASTM D 4541		
Minimum for both primer and PIT (Primer, Intermediate, and Topcoat) panels	2.4 MPa (350 psi)	4.1 MPa (600 psi)
Freeze Thaw Criteria -After 30 freeze/thaw cycles as defined in AASHTO R 31, Subsection 9.6.1, there shall be no loss of adhesion when compared with above adhesion results.		

- 7.1 Certified test results of the material for each coat (prime, intermediate and top) for the following properties shall be submitted to the Central Laboratory in Montgomery, AL:
- Pigment Content ASTM D 2698
 - Density ASTM D 1475
 - Solids Content ASTM D 2369
 - Non-volatile in ASTM D 2698
 - In Vehicle content
 - Viscosity, Ku ASTM D 562

- Dry to Touch ASTM D 1640
- Dry Through ASTM D 1640
- Sag Resistance ASTM D 4400
- Infrared Spectrum ASTM D 2621

These results will be kept on file and used for fingerprinting of project samples. Tests results will be compared to the specification acceptance of Table 1 of 4.1 of ALDOT 443.

8. **Producer's Maintenance Requirements:**
 Companies with products on this list will be expected to comply with the following to stay on the list:
- 8.1 Produce the same quality of material as the material supplied for the original evaluation.
- 8.2 Provide only approved products to Department projects.
- 8.3 Promptly report to the Department any changes in company name, product name, company address or company ownership.
- 8.4 Notify the Department of any changes in production of the product. Any alteration that will change the product physically or chemically will require a reevaluation of the product.
- 8.5 Provide technical assistance to the Department and/or contractor concerning the application and safety of the product. This assistance may include visits to the application site if required by the Department. (Article 521.03 of the Standard Specifications)
- 8.6 Promptly report to the Department any changes to the manufacturer's Build America, Buy America (BABA) compliant Status
9. **Laboratory Testing:** Routine laboratory tests may be conducted to fingerprint the products taken in the field
10. **Contractors' Requirements:** The prime contractor will be responsible for purchasing and using only approved products.
- 10.1 Advising the project engineer of the system selected for maintenance projects, and the Bridge Engineer for projects using newly fabricated steel.
- 10.2 Cleaning, storing, and applying these coatings according to Department specifications and Manufacturers recommendations.
11. **Removal of Products:** Products may be removed from this list for any of the following:
- 11.1 Mislabeling products or substitution of products other than those originally submitted.
- 11.2 Failure to comply with any of the Department's requirements for this type of material.
- 11.3 Failure to work satisfactorily on the job.
- 11.4 A change that will affect the manufacturer's BABA status requirement(s) will result in either (1) the product being removed from the approval list or (2) will remain on the approval

list and will be labeled as non-compliant and can be used on non-federal funded projects.

12. **Correspondence:** All correspondence concerning this list should be directed to the following:
Product Evaluation Board
Alabama Department of Transportation
3704 Fairground Road
Montgomery, AL 36110