

NAPCA Bulletin 6-69-94-1

SUGGESTED PROCEDURES FOR HAND WRAPPING FIELD JOINTS USING HOT ENAMEL

1. **General**

- a. These specifications may be used in whole or in part by anyone without prejudice, if recognition of the source is included. The National Association of Pipe Coating Applicators (NAPCA) assumes no responsibility for the interpretation or use of these specifications.
- b. The intended use of these coatings is to provide corrosion protection for buried pipelines. Above ground storage of coated pipe in excess of 6 months without additional Ultraviolet protection is not recommended.
- c. The following definitions apply:
 - i. Applicator - The contractor who applies the coating to the pipe.
 - ii. Company - The purchaser of the coated pipe or the entity for whom the Applicator coats the pipe.
 - iii. SSPC - The Steel Structures Painting Council.
 - iv. NACE - NACE International.
 - v. Manufacturer - The company that makes the coating materials which are applied to the pipe.

2. **Scope**

- a. The Applicator shall furnish all labor, equipment and material required, shall prepare all surfaces to be coated and shall apply the coating to all surfaces to be coated.
- b. These specifications are intended to cover the minimum requirements for application of hot coal tar enamel to field welds during pipeline construction.

3. **Coating Material**

- a. All coating materials, including repair or patch materials, purchased or used under these specifications, shall be packaged in suitable and approved containers. The containers shall be plainly marked with the name of the Manufacturer, type of material and batch or lot number where applicable. Bulk shipments shall be allowed provided the above information is included in the bill of lading.
- b. The coating material shall be packaged in containers suitable to keep the contents clean and dry during handling, shipping and storage. Storage and handling conditions shall be in accordance with the Manufacturer's recommendations.
- c. Precautions shall be taken during the handling, shipping and storage of all materials to prevent damage to the containers that would result in contamination of the coating materials. All contaminated, or otherwise damaged materials shall be discarded.

4. **Surface Preparation**

- a. The surface to be coated must be cleaned of all rust, mud, oil, grease, moisture, mill lacquer or other deleterious substances. Wire brushing and/or solvent washing is sufficient in most instances. Weld splatter should be removed by filing.

- b. The plant applied coating at the ends shall be beveled so as to expose the enamel.

5. **Application Procedures**

- a. Select primer that is compatible with type of enamel to be applied. Apply primer to the clean, dry surface by brushing or spraying. Average suggested coverage is 400 square feet per gallon.
- b. When applying primer, be careful to avoid runs and drips. Brush the primer thoroughly on the weld area.
- c. Primer should be completely dry before application of hot enamel and wrapper.
- d. Care shall be exercised in preparing the enamel for melting so that it is not contaminated with any foreign substance. Enamel shall be heated in approved type kettles with agitators, or stirred either mechanically or manually, and both kettle and application temperature must be in accordance with the Manufacturer's recommendations.
- e. Care should be taken that enamel in the pouring bucket does not get below recommended application temperatures.
- f. Apply hot enamel over previously cleaned and primed surface.
- g. Cut strips of wrapper according to size of pipe. Depending on length of the repair and width of the wrapper, multiple strips may be required to cover the entire patch area. Length of wrapper should be 4 times the diameter of the pipe.
- h. Slip wrapper under pipe and pull ends above pipe on both sides, leaving about 1 inch distance from bottom of pipe to wrapper.
- i. Pour molten enamel on top 1/4 of pipe from one side of pipe to other. Enamel will flow down and around the pipe surface.
- j. When enamel moves to the bottom of the pipe, see-saw the wrapper loosely with an upward and downward motion to assure proper thickness.
- k. Pull wrapper around the hot enamel tightly and pour a spot of enamel on top to stick wrapper overlap together. Press firmly and smooth out.

6. **Inspection and Testing**

Test with Holiday Detector, voltage not to exceed that used by plant coating application.

7. **Repair Procedures**

- a. Holidays may be of a pinpoint or bubble type, or larger damaged areas resulting in exposed metal.
- b. For repair of pinpoint holidays, remove kraft paper and wrapper with a sharp knife taking care not to damage enamel. Pour correctly heated enamel over area to specified thickness and cover with one patch of wrapper.
- c. For repair of larger holidays, remove disbonded enamel and bevel the remaining edges. Clean surface properly and reprime the bare area. After primer has dried, apply hot enamel to area at the specified thickness and cover with one wrap of wrapper.
- d. Check with Holiday Detector.