

Boiled Linseed Anti-Spalling Compound

Directions for Use

by Harvey S. Goodwin
Bridge Maintenance Engineer, NHDOT

Linseed anti-spalling compound protects concrete surfaces in two ways: by penetrating the porous surface of the concrete to a depth of approximately 1/8 inch; and by combining with atmospheric oxygen to form a protective coating through which destructive moisture and salt solutions cannot penetrate.

Uses: Linseed anti-spalling compound is used to protect roads, bridge decks, sidewalks, curbs, abutments, endposts, concrete handrails, and all exposed concrete surfaces from de-icing agents. Usually, it is not applied to the undersides and backsides of structures which are less exposed to chlorides. (For more information, see the main article.)

Material: 50% double boiled linseed oil and 50% petroleum spirits (AASHTO M-233-79 Type II).

Time of Application: Surfaces should be cleaned and washed annually in the spring of the year and oiled every two years. Linseed anti-spalling compound can be used on new and old concrete.

The oil is most effective if applied to new concrete upon completion of the initial curing period, usually considered to be about 28 days after placement. However, it has been successfully applied to new concrete after 2 weeks curing.

Linseed anti-spalling compound can be applied to concrete of any age. However, it is most effective in preserving sound concrete surfaces.

Preapplication conditions:

- (1) The concrete should be dry and the solution should not be applied within 24 hours of a rainstorm.

- (2) Remove sand and debris from joints, drains and bridge shoes (use high pressure water wash and let dry 24 hours).
- (3) New concrete should be at least two weeks old. Ideally, it should be 28 days old.
- (4) Although the ideal atmospheric temperature at the time of application is above 70 degrees Fahrenheit, successful applications have been made at temperatures as low as 35 degrees.

Application: Two coats are recommended, applied as follows:

1st Coat: 0.25 gal. per sq. yd.
(40 sq. yds. per gal.)

2nd Coat: 0.15 gal. per sq. yd.
(67 sq. yds. per gal.)

Application may be by spray or hand, but should be uniform. The coverage of *each* coat shall not be more than 50 square yards per gallon of the mixture. When applying the mixture to concrete surfaces, one should take all necessary precautions to ensure that the mixture does not contaminate adjoining asphalt pavements. The mixture will cause a potential safety hazard by making the asphalt pavement slippery. Also, the petroleum based linseed oil mixture may weaken the asphalt.

Complete drying should be permitted between coats. At temperatures of 70 degrees Fahrenheit or above, drying is complete within a few hours. At lower temperatures, proportionately longer drying times are required.

Care should be exercised to cover the concrete surface completely; including all edges, which are sometimes missed in spraying. Maximum protection is afforded only when coverage is complete.

CAUTION: Linseed anti-spalling compound has a flash point around 120 degrees Fahrenheit. While not dangerously flammable, it should not be heated.

In the Next Issue of *Road Business*

Diesel Fuel Gelling

The UNH T²Center staff has attempted to determine the reasons for excessive diesel fuel gelling during January 1994. The causes appear to be a combination of year-to-year weather patterns and EPA and IRS mandates for segregating fuel types. We will clarify and explain this conclusion in the June issue.

The information should help local equipment managers plan fuel supplies for the 1994-1995 winter. If you want information before June, call the UNH T²Center.

Also call if you want information for any of the following topics which are planned for the June issue.

Results of the Needs Assessment Survey

Metrication update and conversion tables.

Procedures for Sealing and Filling Cracks in Asphalt-Surfaced Pavements
