

MATERIALS & RESEARCH DIVISION

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R E S E A R C H    U P D A T E

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**Rust-Oleum Paint Systems**

**Reference** - Work Plan 77-R-48, Reports P80-10 and P80-11.

**History** - For approximately nine years the Materials & Research Division has been evaluating two Rust-Oleum paint systems as possible alternatives to the Vermont Standard System of Basic Lead Silico Chromate or Alkyd for protection of structural steel. Sections of a footbridge located at the Research Lab were prepared and then painted with a variety of systems including: the Vermont Standard, 3 coats of Basic Lead Silico Chromate, "Rust-O-Crylic 5700", a 3 coat water reducible acrylic emulsion system, and "New Color Horizons" a fish oil Alkyd 3 coat system, also by Rust-Oleum.

Observations have been made since then of paint performance. Initially, the oil based system was least expensive and Vermont control most expensive.

**Status** - The project is ongoing and expected to continue until one or more of the systems experiences significant degradation of its ability to protect the metal. At the present time, it appears that all three systems continue to protect the underlying metal. The control system has more chipping than the others with the water based system apparently most chip resistant. The oil based system has significantly fewer chips than the control (50%) while the water based system has outperformed both in this area (12½%).

In appearance the control system has lost all gloss and is displaying a faded chalky surface. Both of the Rust-Oleum systems have retained high gloss and color exceptionally well.

**Projection** - Based on the research to date it appears that the "Rust-O-Crylic 5700" water based system will outperform the Rust-Oleum, "New Color Horizons" and Vermont Standard Basic Lead Silico Chromate systems.

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