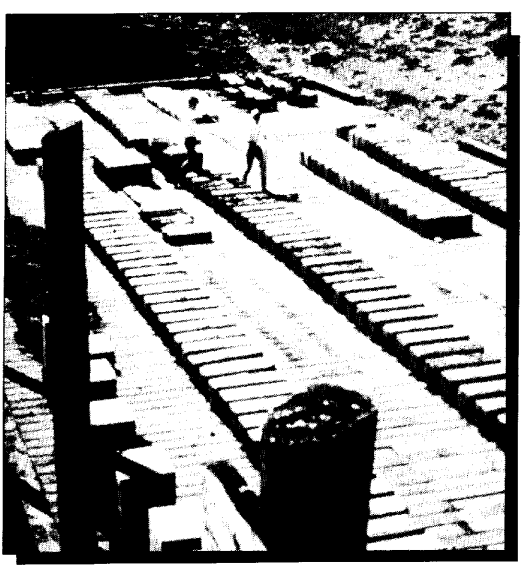
Research Continues for RSIC PCC

The Protection and Coating Committee of the RSIC sponsors, co-sponsors, and is a participant in several studies and research projects ongoing across North America. The following briefly describes the research work performed for us. If you require more information, please contact the RSIC at **416-499-4000** for more information.

A. Surface Science Western

Headed by **Stewart MacIntyre** and **T. Walzak**, Surface Science Western (SSW) at the **University of Western Ontario** in London, Ontario has tackled some interesting and important research topics for the RSIC Protection and Coating Committee, the MTO, and the Concrete Reinforcing Steel Institute (CRSI) in the United States.



An **Adhesion Mechanism Study** is currently being undertaken by the SSW team to determine the mechanism of disbondment due to the absorption of water by epoxy coatings. This study is jointly funded by the MTO, CRSI, and a research grant available under the National Scientific Engineering Research Council (NSERC). The objective of the study is to "view" the changes in bond due to several variables by using various non-intrusive methods. Results are expected by early 1994 and will form the first step in a three step process to determine and test for adhesion in epoxy coated reinforcing bars.

SSW completed **Characterization of Steel Rebar Surfaces During Epoxy Coating Process** for the RSIC earlier this year. Samples were taken from a working epoxy coating line and analysed for surface contamination. The study concluded that exposure of the cleaned bar to the shop environment for up to 60 minutes did not result in any significant change in the surface chemistry.

University of New Brunswick

Professor **Ted Bremner** of the University of New Brunswick is continuing work begun four years ago on **corrosion resistance of epoxy coated reinforcing** steel. Phase I of this study was presented at the January TRB meeting. The research examined corrosion of epoxy coated steel under controlled laboratory and outdoor tidal sea-water condions. To date, the epoxy steel has shown excellent corrosion performance under severe exposure conditions. Research is continuing.

McGill University

Professor **Dennis Mitchell** has been working to gain a better understanding of the influence of epoxy coating on structural performance of of reinforced concrete. The project is to be done in four phases: **bond strength tests**; **tension tests**, simple span **beam tests**, and **full scale slab/column connection tests** each to determine

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