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O T T A W A

July 26, 1945.

R E P O R T
of the
ORE DRESSING AND METALLURGICAL LABORATORIES.

Investigation No. 1912.

Corrosion Resistance of Presstico Sealer
for Spot-Welded Joints.

(Copy No. 7.)

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Background:

A letter dated June 26, 1945, from Mr. J. P. Lewis, factory superintendent of the Canadian Marconi Company, Marconi Building, St. Sacrament Street, Montreal, Quebec, requested that the corrosion resistance of spot-welded joints using Presstico sealer be investigated. This sealer is available from Presstite Engineering Co., 3900 Chouteau Ave., St. Louis 10, Mo., U.S.A. Five samples of spot-welded joints were supplied for the investigation.

EXPERIMENTAL WORK:

The five samples were exposed to the action of 20 per cent salt (sodium chloride) spray at a temperature of about 95° F.

Results:

- After 17
hours: A spot of rust was observed on Sample P1B at the sealing compound near the bottom.
- After 40
hours: One spot of rust observed in the paint on Sample P4B.
- After 64
hours: White corrosion product (obviously not iron rust) down the centre of Sample P3B. Also some rust at the sealing compound near the bottom.
- More white corrosion product on Sample P1B than on Sample P3B. Rust spots were scattered along the sealing compound. Rust on edges of strip on Sample P4B. Rust on one edge of strip on Sample O2B.
- After 110
hours: Samples P1B and P3B had more white corrosion product but no more rust. Signs of rust on surface of Samples P4B, P2B and O2B, P4B being the worst.
- After 135
hours: All samples were given a deep vertical scratch.
- After 180
hours: Samples P4B, P2B and O2B were rusting at the scratches. Surfaces slightly worse than at the end of 110 hours. No rusting at scratches on Samples P1B and P3B.
- After 200
hours: Samples were photographed. See Figures 1 to 5.

(Experimental Work, cont'd) -

After 350
hours:

All samples were removed from the cabinet.

Very slight increase in rusting since
photographs were taken.

Small amount of rusting in the scratch
on Sample P1B. Still no rusting in the
scratch on Sample P3B.

Note: The outside edges of Samples P2B, P4B and
O2B were not very well protected. Rust from them drained down
over the surfaces and made these look considerably worse than
they really were.

Conclusions:

1. All samples showed a certain amount of failure
due to the action of the salt spray. No appreciable amount of
blistering was noted on any of the samples. Sample P3B had no
rusting on the scratch.

2. The samples may be arranged in order of merit
as follows:

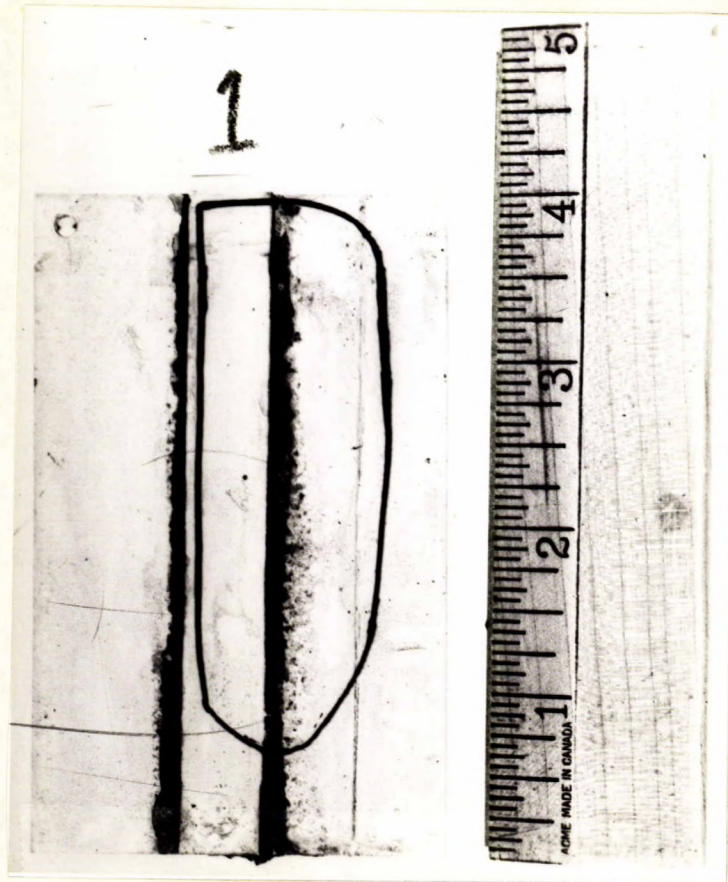
P3B - Best.
P1B
O2B
P2B
P4B - Worst.

Note: The samples are being returned to Mr. Lewis
of the Canadian Marconi Company.

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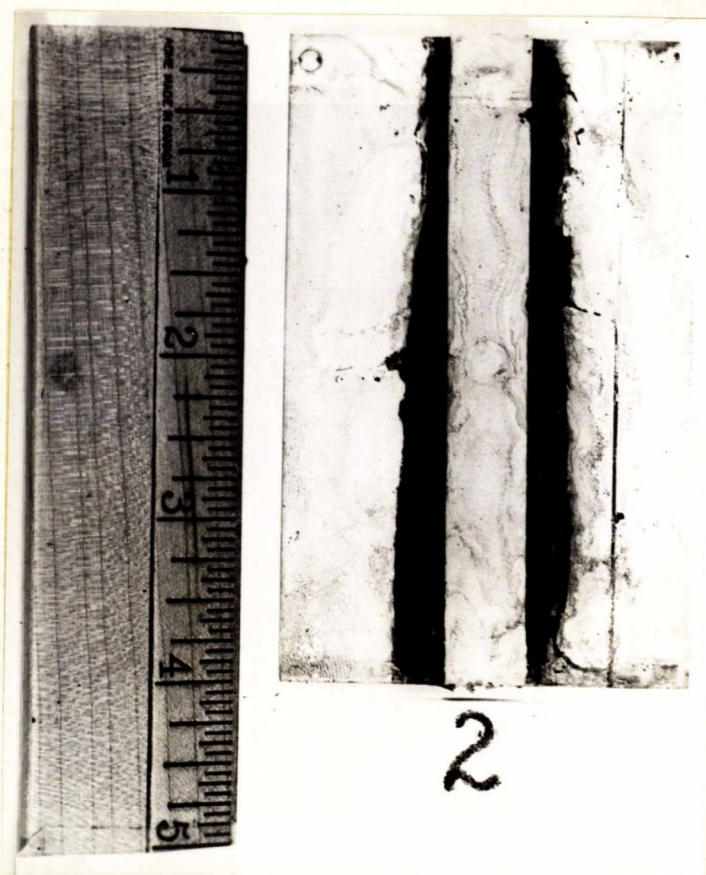
Figure 1.



SAMPLE P3B AFTER EXPOSURE TO
20 PER CENT SALT SPRAY.

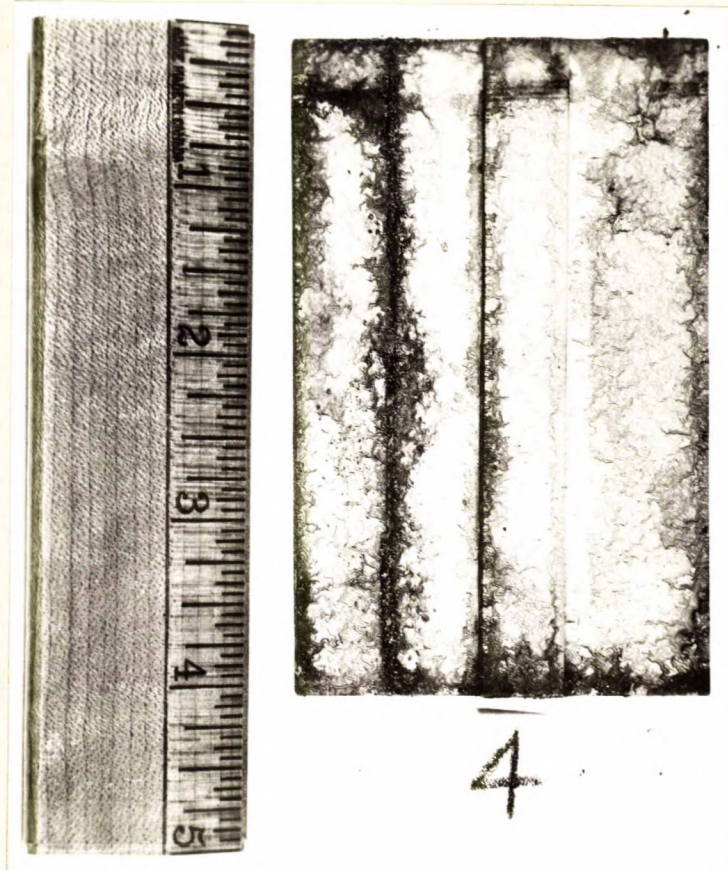
Rusted areas are encircled. The scratch
itself was uncorroded.

Figure 2.



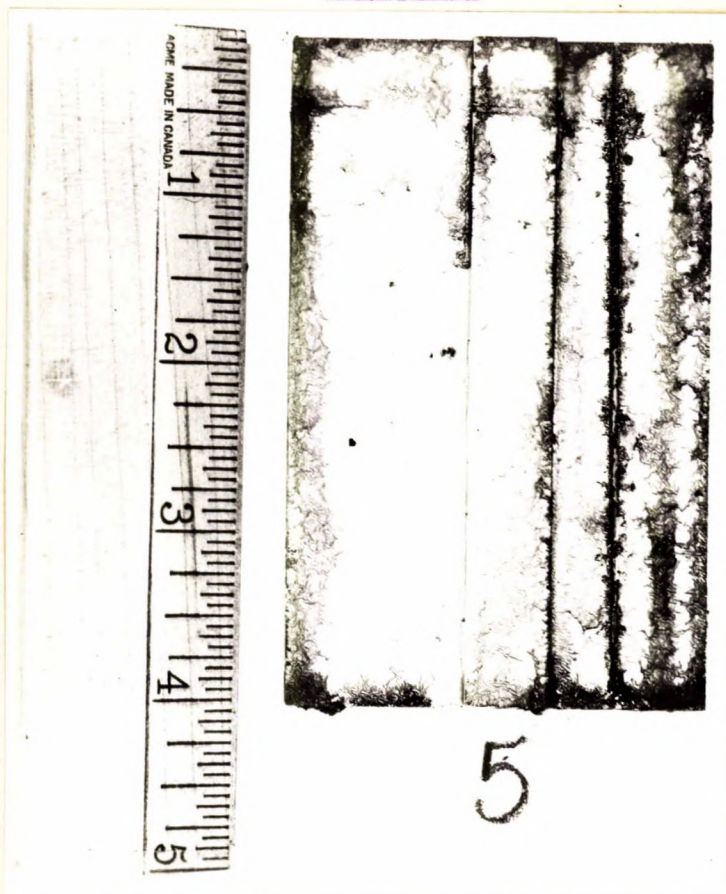
SAMPLE P1B AFTER EXPOSURE TO
20 PER CENT SALT SPRAY.

Figure 3.



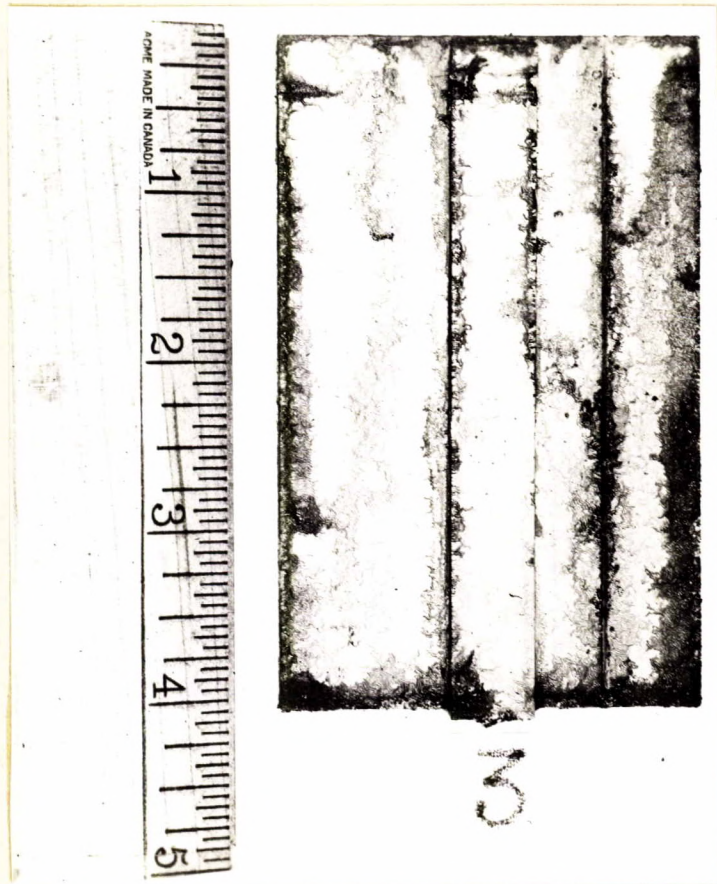
SAMPLE O2B AFTER EXPOSURE TO
20 PER CENT SALT SPRAY.

Figure 4.



SAMPLE P2B AFTER EXPOSURE TO
20 PER CENT SALT SPRAY.

Figure 5.



SAMPLE P4B AFTER EXPOSURE TO
20 PER CENT SALT SPRAY.

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