DEPARTMENT OF MINES AND RESOURCES

BUREAU OF MINES

CANADA

FILE GOPY

Ottawa, February 26, 1947.

REPORT

of the

ORE DRESSING AND METALLURGICAL LABORATORIES.

Investigation No. 2186.

Resistance to Fading of Anodized and Dyed Aluminium Sheet.

(Copy No. 6 .)

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Minoral Dressing and Motellurgy Division

Physical Metallurgy Research Laboratories Mines and Goology Branch

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Background:

A letter dated October 21, 1946, was received from the Canadian Anodized Products Limited, Aurora, Ontario, per Mr. R. E, McDonald, Chemist, requesting that three new samples of Anodized and Dyed Aluminium be investigated for fading in archight containing the same type of radiation as sunlight. The conditions under which the samples were anodized and dyed were given in the letter. The following colours were

(Background, cont'd) -

submitted: yellow and two green samples. The order of serviceability of these samples compared with those previously reported in Investigation No. 2110 was requested.

The green samples submitted were marked:

Sample No. 1 -

20 minutes anodized, 1 minute dyeing.

Sample No. 2 -

20 minutes anodized, 1 minute dyeing.

On the accompanying form sample No. 2 was stated to have been in the dye bath for 5 minutes.

The yellow sample had no marking.

Investigation:

Each of the samples was cut into two pieces. One piece from each sample was placed in the Weather-Ometer, which was adjusted so that the pieces were not subjected to water spray. Throughout the investigation the temperature was 95° F.

The results were as follows:

Aftor 1 day	az	No. 1 had faded very slightly.
Aftor 2 days	5	No. 2 had just started to fade.
Aftor & days	8	No. 1 had faded to almost metallic
		appearance in various places.
After 7 days	Đ	No. 1 had faded to a motallic
		appearance.
After 19 days	ಮ	Yollow sample remained unchanged.
		No. 1 had only very light traces of
		graan golour.

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(Investigation, cont'd) -

No. 2 had faded almost as much as No. 1.

Tested and untested places of the different samples are shown on the accompanying card.

It is concluded that the coloured samples submitted and those already reported in Investigation No. 2110 may be arranged in the following order:

Black (best), yellow, blue, brown, gold, red,

bordeaux, green No. 2, green No. 1, and

green (worst).

The underlined colours are the ones which were tested in the present investigation.

> <u>Note</u>. There is no actual equivalent time given for the Weather-Ometer. It is only used for tests in which one sample is compared with another.

MD:CV.



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colour could not be photographed satisfactorily, therefore samples were mounted on an accompanying card.

Tested

Untested

SAMPLES OF ANODIZED AND DYED ALUMINIUM SHEET, TESTED AND UNTESTED.