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PLAINTIFF'S EXHIBIT

BIR-464

P O BOX 247
NORTHBROOK, ILL.

July 15, 1964

IN ANSWERING PLEASE REFER TO R46
64K1150

Mr. Stanley H. Sallie
Product Development Manager
Bird and Son, Inc.
East Walpole, Massachusetts

Dear Stan:

On June 30 and July 1 you witnessed the conduct of Class A fire tests on 12 by 36 in., 5 in. exposure, square tab strip asphalt organic-felt shingles which had no cutouts. These shingles were manufactured at your Charleston plant on May 7 and were selected by our Inspector on that date. All tests were conducted at an incline of 5 in. to the horizontal ft in accordance with the test methods described in our Standard 790.

In the Spread of Flame tests conducted on duplicate decks, flames spread 4-1/3 and 5 ft, respectively. These distances were noted at about 5 min. Thereafter, flaming gradually receded.

In the Flame Exposure tests conducted on duplicate decks, the shingles protected the deck boards from ignition. At no time during the tests did the surface flaming extend beyond the sixth course and underside action was restricted to light smoke and some asphalt dripping at the first 3 cracks between deck boards.

Examination of the deck boards after the tests indicated that all were stained with asphalt. However, there was no evidence of charring.

Four Class A brands were placed on separate decks and in each case the shingles protected the deck boards from ignition. In only one instance was a glow noted between the deck boards from the underside and in this case the glow was only 1 in. wide and persisted for 8 min. Smoke and dripping of asphalt were noted as usual at the cracks in the brand area.

Examination of the deck boards indicated that the boards in the brand area and above were stained with asphalt and were lightly charred, the maximum depth of char being 1/4 in.

In all of the fire tests the stabilized coating was noted to be quite stable, as there was very little sliding noted, the maximum being about 1-1/2 in.

The enclosed photographs illustrate the appearance of typical decks after the tests. (Also included are photographs of the Class B experimental shingles which were tested under Assignment No. 64K2110.)

On the attached sheet are tabulated the results of tests conducted by our Chemical Department on the shingle and its components.

On the basis of these test results, this shingle, as made at Charleston is eligible to bear our Class A label. Accordingly, we are revising your Listing Card and Label Service Procedure R46 to include reference to this shingle as well as the drawing and direction sheet accompanying your Mr. Hinds letter of July 10.

When these revisions have been completed, our work under Assignment No. 64K1150 will be concluded. Accordingly, we are closing the assignment with this letter.

Very truly yours,

R. L. DONAHUE
Senior Project Engineer
Fire Protection Dept.

Reviewed by:

E. K. STOEHR
Associate Managing Engineer
Fire Protection Dept.

RLD:ma

Results of Tests Conducted on the Shingle and Its Components

FINISHED SHINGLE:

Finished weight, pounds per 100 sq ft	129.0
Mineral matter, pounds per 100 sq ft	68.2
Mineral matter, per cent	52.8
Desaturated felt weight, pounds per 100 sq ft	12.6
Granule adhesion loss grams	1.306

DRY FELT:

Dry weight, pounds per 100 sq ft	11.5
Ash content, per cent	2.39

SATURATED FELT:

Finished weight, pounds per 100 sq ft	32.3
Desaturated felt weight, pounds per 100 sq ft	11.0
Saturation, per cent	193.8

FILLED COATING:

Insoluble in chloroform, per cent	50.5

UNFILLED COATING AND SATURANT:

	Unfilled Coating	Saturant
Flash point F (PMCT)	525	530
Softening point F (R-B)	227	144
Penetration (77F-100g)	15	-

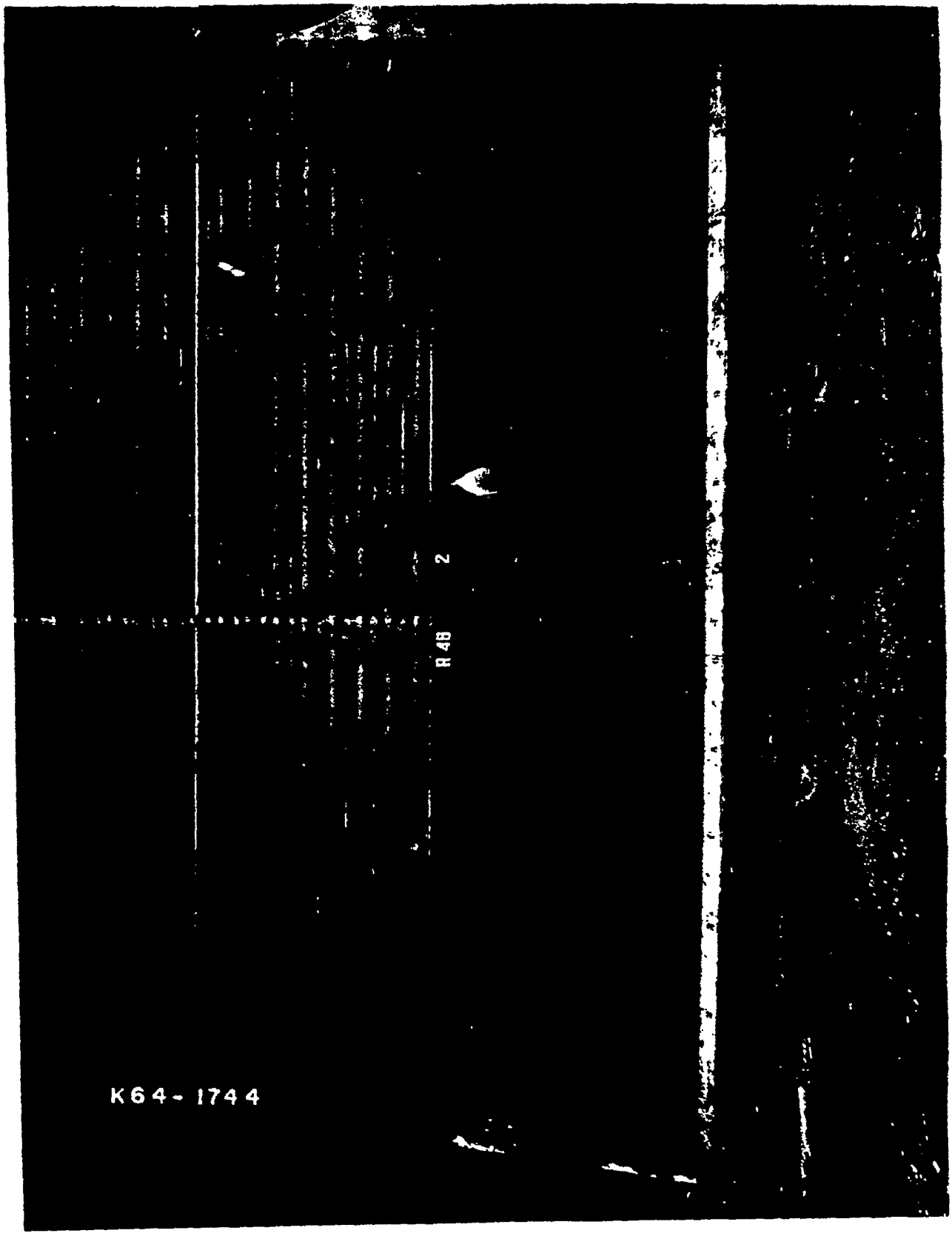
ASBESTOS:

Amount retained on, per cent:	-
No. 16	11
No. 30	30
No. 40	9
No. 100	4
No. 200	10
Pan	35
Loss on ignition, per cent	1.0

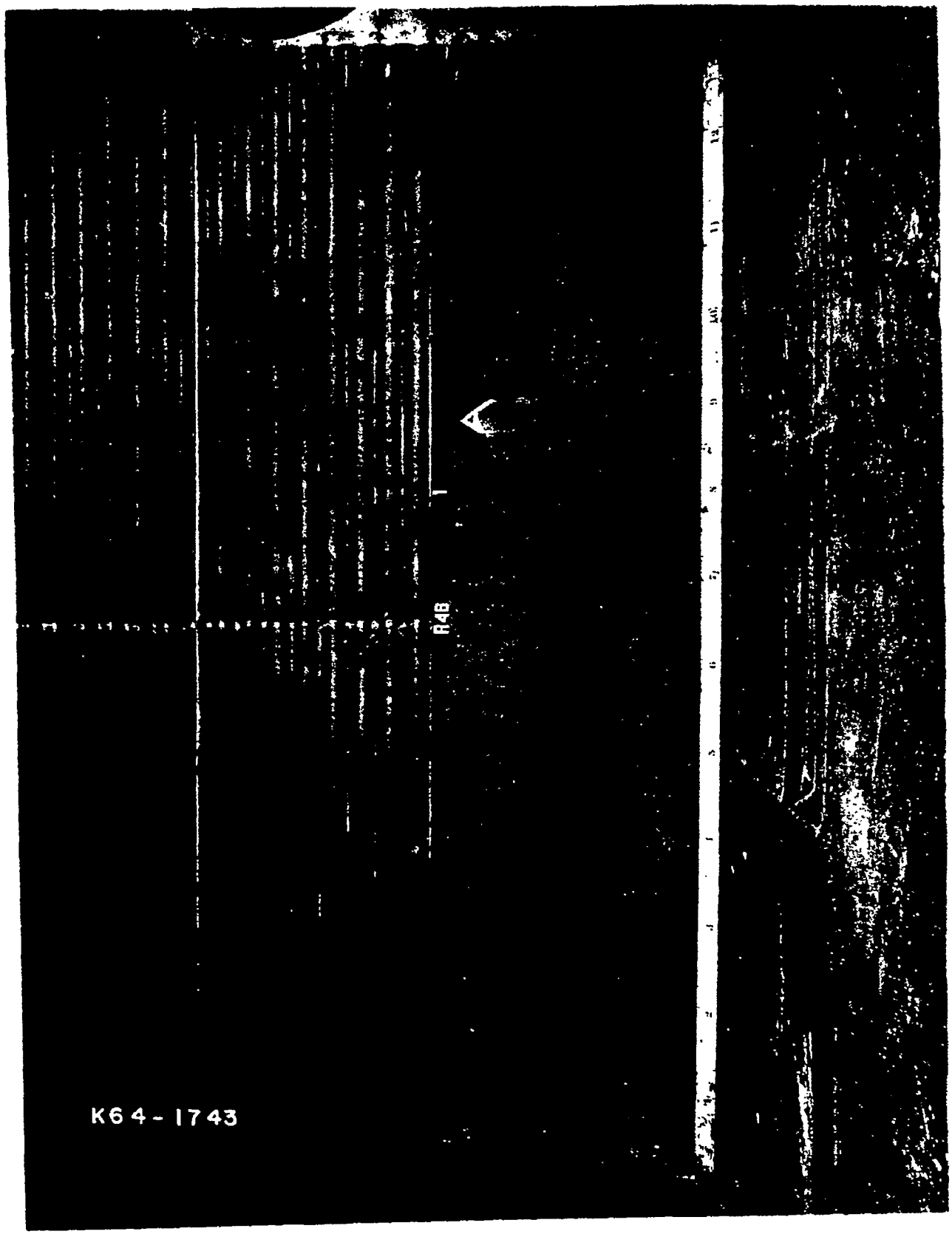
BIRD 015582

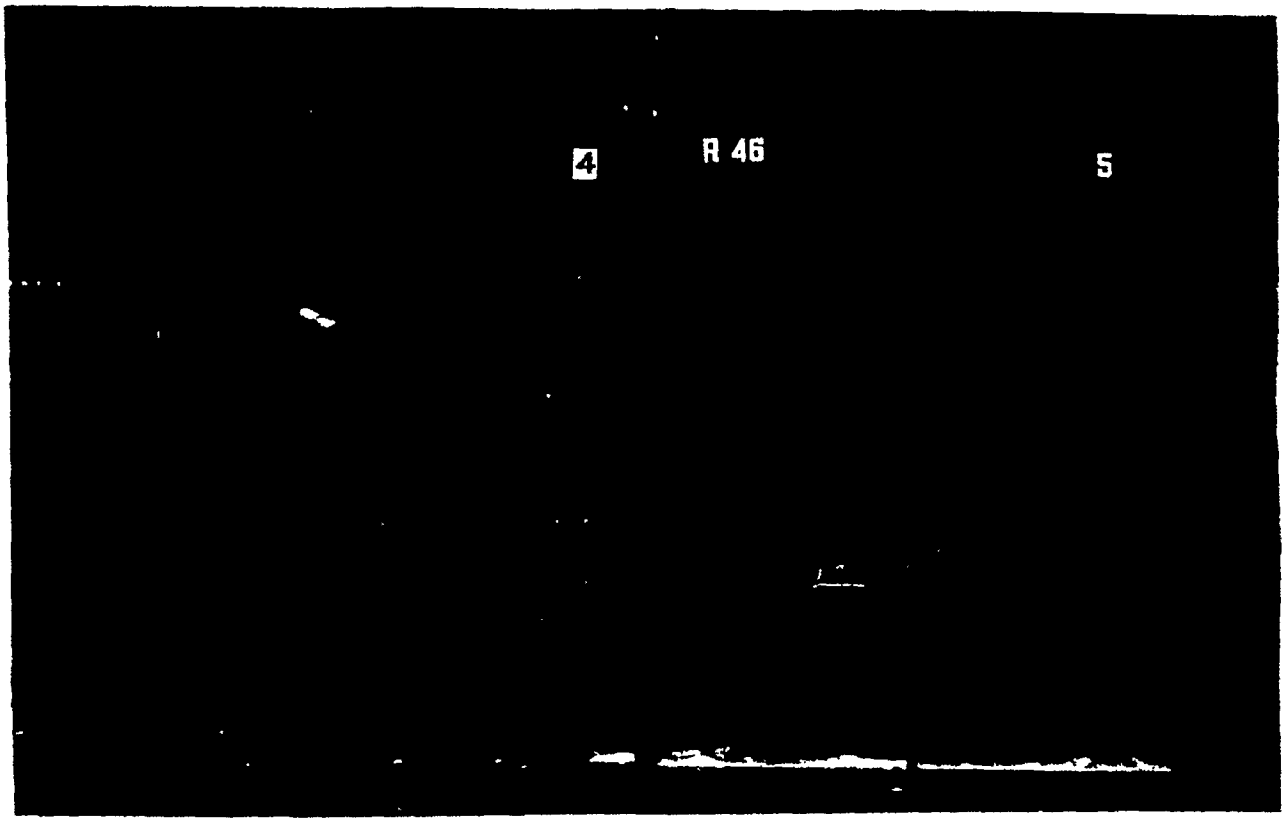
ROCK DUST:

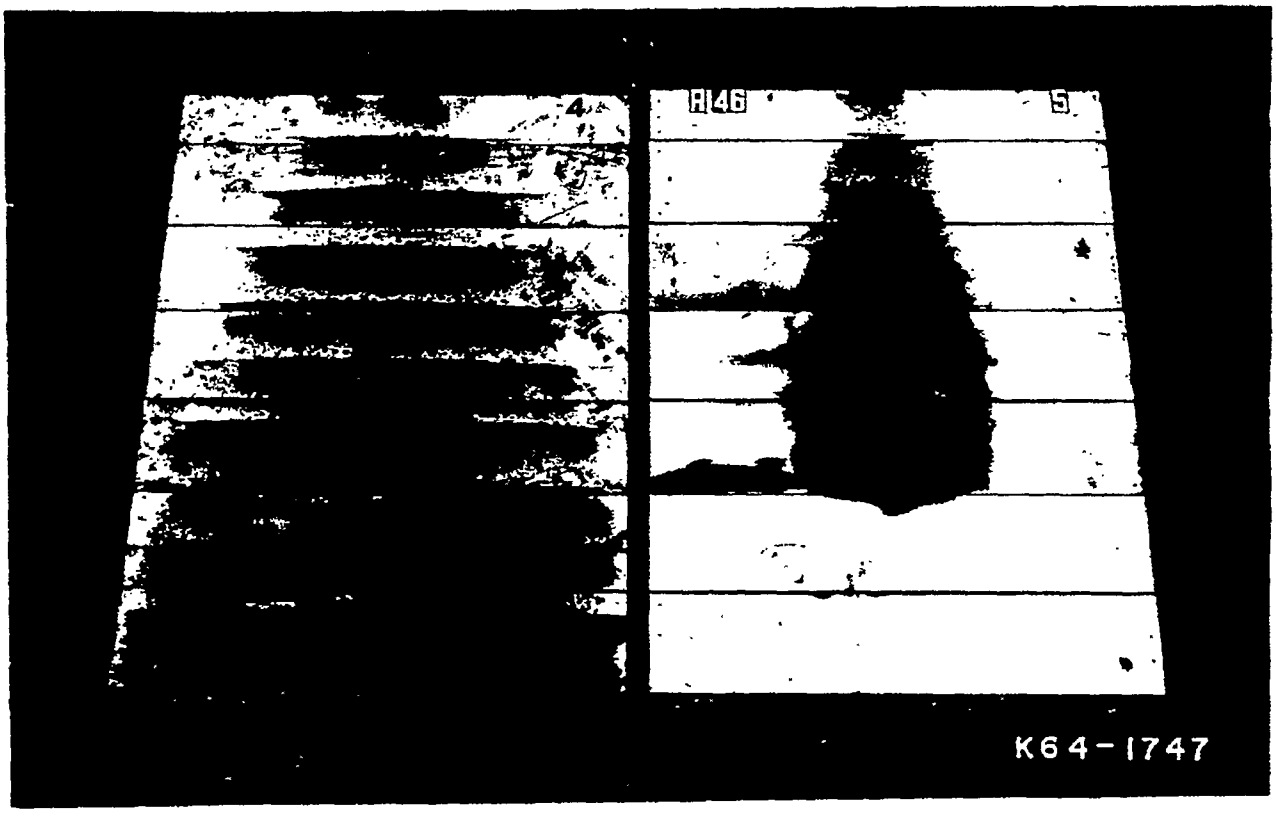
Sieve analysis, per cent retained on:	-
No. 40	None
No. 50	1
No. 70	2
No. 100	2
No. 140	4
No. 200	15
Pan	78
Loss on ignition, per cent	1.98



BIRD 015584


R4B
K64-1743


4
R 46
5


4
R 46
5
K64-1747

BIRD 015579