

## UNDERWRITERS' LABORATORIES, INC.®

PLAINTIFF'S EXHIBIT

BIR-505

R46  
64KL150

CHICAGO - June 24, 1964

Mr. R. L. Donahue  
Senior Project Engr.  
Fire Protection Dept.  
NORTHBROOK TESTING STATION

1. In compliance with your interdepartment work order of June 5, 1964 we have conducted tests on samples of Class A shingles and components, submitted by Bird and Son, Inc. (Charleston) under the above assignment number.

FINISHED PRODUCT:

|                                               |       |         |
|-----------------------------------------------|-------|---------|
| Finished weight, pounds per 100 sq ft         | 129.0 | (132.6) |
| Mineral matter, pounds per 100 sq ft          | 68.2  | (77.3)  |
| Mineral matter, per cent                      | 52.8  | (59.5)  |
| Desaturated felt weight, pounds per 100 sq ft | 12.6  |         |
| Granular adhesion, grams loss                 | 1.306 |         |

DRY FELT:

|                                  |      |        |
|----------------------------------|------|--------|
| Dry weight, pounds per 100 sq ft | 11.5 | (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 | (200.6) |

R46

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June 24, 1964

FILLED COATING:

Insoluble in chloroform, per cent 50.5

UNFILLED COATING AND SATURANT:

|                         | <u>Unfilled<br/>Coating</u> | <u>Saturant</u> |
|-------------------------|-----------------------------|-----------------|
| 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 |

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 |

2. This completes our tests under the above work order.

  
G. H. HANSON  
Project Engineer  
Chemical Department

GHH:DJM