Hinds and Jackson (1)

EXPERIMENTAL CLASS A SHINGLE WORK

MAY - AUGUST 1959

(1) 16% JT ASBESTOS IN COATING (OLD INS. SIDING COATING)
(2) ASPHALT EMULSION COATING (QUICK-SETTING EMULSION EXPERIMENTS) } NO SLIDE
(3) 1 MIL ALUMINUM FOIL COMBINED TO FELT WITH COATING (HOLES PUNCHED IN FOIL) — INHIBITS SLIDE
(4) ASPHALT EMULSION — FIBRE GLASS FELT (INHIBITS SLIDE) } SOMEWHAT
(5) 1 & 1.5 MIL PERFORATED & NON-PERFORATED AL. FOIL (INTER-LAYER)
(6) AL. FOIL BACKING ON SHINGLE (WORKED BETTER THAN AGAINST HEAT PENETRATION)
(7) 10 & 15% POWDERED SODIUM SILICATE IN COATING — FOAMED
(8) VARIOUS GRADES UNEXPANDED VERMICULITE IN COATING — FOAMED
(9) VERMICULITE SURFACING — NO SLIDE RESISTANCE
(10) 2% TO 6% FINNISH ASBESTOS IN COATING — SLIGHT SLIDE WITH 6%

AUGUST - NOV. 1959

(11) 0.25, 0.5, 1.0, 5.0% 1/4" CHOPPED GLASS IN COATING — UNWORKABLE SLIDE
(12) 5% DYNEL SHEARINGS, 5% ORTHO BORIC ACID, 5% $CaCO_3$, 5% $Ca(OH)_2$, 2.5% $Mg(NO_3)_2$, 5% $ZnCO_3$, SOME FOAMED, NONE STOPPED SLIDE
(13) 5% MACERATED AL FOIL, 1% WOOD FIBER, 15% NAC), 15% SUGAR, 5% VERMICULITE & 15% AL POWDER, 15% ANTIMONY OXIDE, 15% PENTAERYTHRITOL, 15% WHEAT FLOUR, 15% CORN STARCH — NONE PRACTICAL
(14) AL FLAKES & NEEDLES IN COATING — BLAH!

RECAP ON RESULTS OF ALL ABOVE
PBL N.B. # 72 - pp. 20 - 24

PLAINTIFF'S EXHIBIT
BIR-609

BIRD 015746

(5) 1 TO 10% AL POWDER IN ASPHALT – 6% UP HELPED
10% GELATIN " " BLAH!
15% SOAPSTONE " " (SLIDE RESISTANCE)
(16) 5% + 10% 2T ASBESTOS IN COATING – SLIDE INHIBITED
(17) 4% 2T + 5% MICA " " – " "
(18) 5% 2T + 5-10% SOAPSTONE – MEDIUM SLIDE
(19) 10% 2T + 5% SS — NO SLIDE
(20) 10% -20% SS, 15% CALGON, 15% ZINC DUST, 15% BORAX – NO SLIDE
(21) 1% TO 15% BORAX 10 MOL IN COATING – 5% UP HELPED
(22) ASBESTOS + BORAX MIXES " " –
(23) 10% #100 PERLITE OR #130 PERLITE OR #2 PERLITE – NOT EFFECTIVE
(4) MN-33 (?) IN COATING

DEC – MAY 1960

(25) BORACIZED COATINGS BASED ON 42% FBU DUST
(26) BORAX + METAL MIXES – NO GOOD (5% BORAX 10 MOL
(27) BORAX 10 MOL INTERLAYERS – NO GOOD
(28) VARIOUS MIXES WITH MONTAR RESIN #5 + #9 IN COATINGS WITH #11 GRADING BORAX 10 MOL INTERLAYER – NO SLIDE

MAY 1960 — APRIL 1962
JJ WORK WITH GLASS

APRIL 1962 – MAY 1962

(29) VARIOUS CONCENTRATIONS OF "6" SODIUM SILICATE IN COATING – FOAMED, UNWORKABLE

(30) "6" SODIUM SILICATE + 7% ASBESTOS MIXES IN AND A.

JULY 1962 – SEPT 1962

(31) INTERLAYER DEVELOPMENT (BORAX-SILICATE GEL)

(32) -65 MESH BORATE SILICATE GEL – FBC DUST FILLED ASPHALT – GOOD SLIDE RESISTANCE

SEPT 1962 – DEC 1962

(33) VARIOUS FORMULATIONS + INGREDIENT FOR INTUMESCENT GRANULES AS INTERLAYER

DEC 1962 – FEB 1963

(34) INTERLAYER FORMULATIONS + INT-GRANULE PRODUCTION

(35) EXP WITH NEW FORMULATIONS OF INTERLAYER TO WORK WITH ORDINARY FILLED COATING (No ASBESTOS)

FEB 1963 – JUNE 1963

(36) CONTINUED WITH (35)

(37) 5–15% FINNISH ASBESTOS – FBC DUST IN ASPHALT – 10% FINNISH STOPPED SLIDE

(38) 10% COAL DUST IN COATING – NO GOOD

(39) 7% ASBESTOS IN COATING – NOT AS EFFECTIVE AS FINNISH

JUNE 1963 – OCT 1963

(40) GLASS MAT – FELT BASE – INT. GRANULES – NO ASBESTOS IN COATING – MODERATE SLIDE

(41) 5% TO 50% CONGOLITE IN ASPHALT – WHEN 50% USED, STOPPED SLIDE

OCT 1963 – MAY 1964

(42) 12% FINNISH ASBESTOS IN COATING NECESSARY WITH INTUMESCENT GRANULES FOR CLASS A

(43) NO ASBESTOS IN COATING – INTUMESCENT GRANULES OK FOR CLASS B

MAY 1964 – DEC 1964

(44) BORO-SILICATE GEL COATED GLASS MAT FOR C-CLASS SHINGLES – TOO BRITTLE

DEC 1964 – OCT 1965

NONE

OCT 1965 – OCT 1966

NONE

OCT 1966 – MAY 1967.

(45) 10 mil GLASS MAT – INT. GRANULE – 12% ASB. COATING

(46) 20 mil " " " " " " "

BOTH OK

BIRD 015749

BIRD 015745