

R Jagocki

RESEARCH AND DEVELOPMENT PROGRESS REPORT

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PSL - Mr. KirklinProject No. 007Report No. 44Written by R. JagockiDate Aug. 28, 1979Project Title: STUDIES OF PERFORMANCE PROPERTIES OF ROOFINGSubject: Program for Testing Current Bird Shingle Plant
Dry Felts & Shingles Made From the Same Felts

Object: Trial Run 79-3
To make W/S Snow White shingles at Shreveport with 527 Asphalt and 3% Wax Dots in place of regular Wind Seal Adhesive. These were to test for a less firm bond between shingles in the southern area of the country and possibly relieve stresses that cause horizontal cracking. This report covers the starting dry felts used in this run at the start and end of each roll to establish weight, caliper, strength and saturating properties.

Conclusions:

1. The felt was quite variable in O.D. weight across the 48" width with 56% failing the U.L. minimum when tested by lane.
2. The other properties were typical of Shreveport felt for tensile, kerosene number and xylene.

Results:

1. Roll, R-14 BFB was quite a bit below the U.L. minimum weight at the start in all four lanes. This was still light in lanes 2 and 4 near the core.
2. Roll R-26 BJT was light in lanes 1 and 3 at the start and light in lane 3 at the end.

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3. Porosity as determined by the Gurley densometer was generally the same level as previously determined on Shreveport 55 lb. organic felt. Porosity is a factor of "openness" of the sheet which would influence speed of saturation. Porosity was average for Shreveport felt.
4. The kerosene numbers were in the 172-179 range except for two values on roll R-26 BJT which were in the low 180's. This represents the somewhat lower saturating capacity as previously found for Shreveport felt.
5. Tensile strength was in the high 30's - low 40's in the MD. This would be typical of recent Shreveport felt.
6. The xylene values were in the low 20's which generally would mean a satisfactory rate of saturation.

Discussion:

Samples from the top and bottom of two rolls of Shreveport 55 lb. organic felt were sent to BBH for testing. These samples were cut to represent the four lanes of shingles produced with them and tested for routine physicals including O.D. weight, caliper, density, MD & CD tensile, porosity, K# and xylene.

The experiment was to produce some shingles with 527 asphalt and 3% wax Wind Seal dots to see if a weaker bond between the shingles could help reduce the horizontal cracking tendencies in the south.

It should be noted that both rolls were Shreveport "B" rolls which are the middle roll out of each reel. The "B" rolls usually have less extreme weight variations but are also usually lower in O.D. weight. The lower weight was found in these samples.

Data:

See attached Table.

Bibliography:

R. F. Jagocki, Lab Notebook #302 pp 38 - 40

RFJ/ac
attach.

Robert F. Jagocki

Trial Run 79-3

Physical Properties of Dry Felt Used in Shingles

Produced at FS with 527 Asphalt and 3% Wax Dots

	O.D. wt lbs/480ft ²	Caliper in	Density lbs/ft ³	Porosity 5 oz cyl sec/400 cc air	Tensile Scott, #/in MD/CD	K#	Xylene	Type of shingle
R-14 BFB Lane								
Roll #1	49.58	.057	21.74	94	42.0/17.7	175	22	W/S
Start	51.95	.059	22.01	98	43.2/18.1	173	21.5	Snow White, Dots
	51.46	.058	22.18	101	42.1/18.7	176	23	527 w/
	51.51	.0585	22.01	112	42.3/19.0	176	23	3% Wax
	53.33	.0605	22.04	103	45.5/18.5	172	23	
	47.67	.0575	20.73	98	43.9/18.0	173	21	
End	53.27	.059	22.57	112	43.6/19.2	177	23.5	"
	51.76	.059	21.93	101	44.4/18.6	175	21.5	
R-26 BJT Lane								
Roll #3	50.81	.059	21.53	84	38.7/17.1	179	20	
Start	52.99	.059	22.46	80	39.2/16.0	177	19	"
	52.10	.058	22.45	84	41.6/16.2	179	21	
	54.60	.060	22.75	95	40.9/18.1	177	20	
	55.11	.061	22.54	102	43.1/19.5	174	19	"
	53.20	.060	22.16	84	44.1/19.1	178	20.5	
End	52.15	.060	21.73	79	41.3/18.8	181	20.5	
	53.60	.060	22.33	85	42.1/20.0	182	20	