PLAINTIFF'S EXHIBIT WRG-1419

APR 12 1972

Janice 1 (2) File mk wilder

CONSTRUCTION PRODUCTS DIVISION

NUMBER: T&A 42977
GROUP: ZONOLITE
DATE:
CHARGE NO.:
REQUESTOR: V. G. Monroe
MARKETING or MANUFACTURING APPROVAL:
NAME: R. C. Ericson
APPROVED: R C Ericson

PAGE 1

REQUEST FOR TECHNICAL SERVICE

PROBLEM TITLE: Run C-11 yield test on Wilders MK-3 bags selected from job site - First National Bank, Louisville, Ky.

SIGNIFICANCE: Customer, Birdie Plastering, claims they are not getting the 28 bd. ft. yield.

SPECIFIC OBJECTIVE: Two bags have been shipped to T.R. Wilders Q.C. testing ratio is 2.15/1.0 and target packing weight is 48#. Typical MK-4 mix density is 52.2#/cu.ft. at 23 vicat.

SUGGESTED APPROACH:

DEADLINE (Last day information will be of value): April 8, 1972

DETAILS OF PROBLEM: Run std. C-11 test, making sure that mix ratio of bags to be tested is appropriate.

ACCEPTED BY RESEARCH DEPT.: [signature] DATE: April 4, 1972

ASSIGNED TO: G. S. Orenstein

ADDITIONAL COPIES: Original to Library, W. R. Payment/T.R. T. P. Feit, J. W. Ashworth/Wilders, S. N. Mangino/Milwaukee, H. C. Duecker, R. Laub/Louisville, T. Egan/Chicago, R. C. Ericson

CONFIDENTIAL

D015945

25204978

NUMBER: 42977
GROUP: ZONOLITE
ACTUAL COST:
REPORTING DATE: April 11, 1972

REQUEST FOR TECHNICAL SERVICE

SUMMARY: The MONO-KOTE operation on the First National Bank, Louisville, Kentucky was found to be probably within specification with regard to yield but was close to the lower limit of 28 board feet. An improvement in yield and MONO-KOTE quality was possible by better mixing technique and better air pressure control.

RELEVENT PRIOR TECHNICAL SERVICE: None

CONCLUSIONS:

1. Mixing time recommendations should be lengthened to at least 5 minutes. Six minutes would be even better. Alternatively, the mixer speed could be increased from 32 to 40 RPM and mixing time dropped by a minute to 4 to 5 minutes.

2. Air pressure should be controlled at the nozzle to 20-25 psi.

3. Water should be held to 12 - 12 1/2 gal. per bag - slightly less than what was being used.

DATA AND ANALYSIS:

1. Pertenant data are presented on the enclosed data sheets.

2. We spent the morning monitoring the existing operation and spent the afternoon attempting to increase yield.

3. The following facts are apparent:

   A. The water content could not be exactly established, but from the results of one test run with water measured at 12 gal. per bag it may be concluded that the amount of water being used is greater than 12 gal. per bag.

   B. Yield can never be established exactly unless the amount of water being used has been established exactly. Nevertheless, it appears that Berti was getting greater than 28 board feet per bag.

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25204979

NUMBER: 42977
GROUP: ZONOLITE
ACTUAL COST:
REPORTING DATE: April 11, 1972

REQUEST FOR TECHNICAL SERVICE

C. The MONO-KOTE was not being mixed enough in the mixer. This is evident from the fact that Air-Off nozzle density is less than mixer density.

D. Yield was increased and water was reduced (important for prevention of cracks) by extending the mix time to five minutes. The fact that Air-Off nozzle density was still slightly below mixer density means that a slight bit more mixing could be used to further increase yield.

E. The mixer operater refused to increase the mixer speed because he said that it would then throw the MONO-KOTE into his face. This would have had the same effect as increaseing mixer time.

F. Air pressure was uncontrolled. Air gage showed 35 psi was being used. When the pressure was reduced to 22-24 psi an adequate pattern was maintained. The nozzle-man expressed a preference for the higher air pressure, but he could not explain why the lower air pressure was no good.

G. It is seen in the data that when the mixer density had been adjusted properly (afternoon) an extra 0.6 board feet can be obtained by proper air pressure control

G. S. Orenstein

GSO:nmh

D015947

25204980

NUMBER: 42977
GROUP: ZONOLITE
Actual Cost:
REPORTING DATE: April 11, 1972

REQUEST FOR TECHNICAL SERVICE

First National Bank, Louisville, Ky.

Set Up: Two Thompson A 3.75 pumps on Floor 19
#1 pumping to 33rd floor @ 76 strokes per minute
#2 pumping to 32nd floor @ 86 strokes per minute
Mixer: Unknown Breed - Plaster (Muller) type -32 RPM
1 Mixer for two pumps
Vertical Rise 170' to 33rd floor
50' Surge hose
121' Pipe
250' 2 1/2" hose + 1 1/2" whip line
1/2" nozzle orifice

Morning Operation : At the Pump

Mix	Mixing Time	Avg Vicat	Density* (pcf)	R	Comment	Note Gal/Bag	Note R
1	2:00	25	58.1	2.2-2.3			
2	2:10	25	56.0	2.2-2.3	Water	11.8	2.1
3	2:10	36	55.2	2.3-2.4	Estimate	12.4	2.2
4	2:05	19	54.8	2.2-2.3		13.0	2.3
5	2:10	14	58.2	2.12	Water Measured		

Morning Operation : At the Nozzle

Sample	Air Pressure	Air Off Vicat	Air Off Density* (pcf)	Air On Vicat	Air On Density* (pcf)	Density** (pcf)	Yield**	Estimated Dry Density
A	35 psi	4	53.2	1	64.4	66.0	27.3-28.2	23.1-22.4
B	35	3	54.0	3	58.9?	64.5	28.0-28.9	22.6-21.9
C	35	-	--	3	--	64.5	28.0-28.9	22.6-21.9
D	23	-	--	-	--	65.1	27.7-28.6	22.8-22.1
							Avg. 28.2	

*Based upon 5 oz. cup measurement

**Based upon 10 qt. pail measurement

Note: Yield range is for R range of 2.2-2.3
ditto for estimated dry density

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REQUEST FOR TECHNICAL SERVICE

[illegible]: 42977
GROUP: ZONOLITE
ACTUAL COST:
REPORTING DATE: April 11, 1972

AFTERNOON OPERATION : At the Pump

Mix	Mixing Time	Avg. Vicat	Density* (pcf)	R	Comment
1	4:00	18	53.5	2.2-2.3	Water was Estimated
2	4:00	20	56.0	2.2-2.3	
3	4:00	16	54.0	2.2-2.3	
4	4:00	17	54.6	2.2-2.3	
5	5:00	26	55.2	2.2-2.3	
6	4:00	26	54.2	2.2-2.3	
7	5:00	20	51.7	2.1-2.2	Assumed Conditions for the Nozzle Measurements Below.
8	5:00	21	51.3	2.1-2.2	

Sample	Air Pressure	Vicat	Density* (pcf)	Vicat	Density* (pcf)	Density** (pcf)	Yield**	Estimated Dry Density
A	35	10	50.6	1	61.0	61.8	28.3-29.2	22.3-21.6
B	22	6	52.7	2	60.2	60.6	28.9-29.8	21.9-21.2
C	35	8	51.0	3	60.6	61.8	28.3-29.2	22.3-21.6
D	22	6	51.9	2	58.9	60.6	28.9-29.8	21.9-21.2

*Based upon 5 oz. cup measurement

**Based upon 10 qt. pail measurement

Note: Yield range is for R range of 2.1-2.2

Results of C-11 Test at Travelers Rest

R = 2.19 (12.3 gal/bag)

Mixer: Mix - 3 minutes; Vicat - 25 mm; Density - 49.2 pcf

Nozzle: Pressure - 12 psi; Vicat - 4 mm; Density - 60.0 pcf

Yield: 29.99 bd. ft./47# bag

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