

QUALITY WORK INSTRUCTIONS (QWI) HOMOGENIZATION AND STORAGE

Document #: QWI-5

Revision #: 1

Effective Date: 12/2/09

1.0 OPERATIONAL INSTRUCTIONS

The Plant Manager/Production Manager reviews the inventory on hand and the projected demand and decides whether to operate the plant. If production is needed, the fluid plant operation is instructed to start the process. The Fluid Plant Operator is required to maintain a working supply of raw materials in the fluid plant to start up. The procedures are:

1. Fill batch tank to water level with hot water from water storage tank. Temperature of water is 130°F min.
2. Start mixer on batch tank.
3. Add 3 bags marasperse (approx. 170 lbs.) per 600 gallon batch
4. Add 2 bags plus 20 lbs. cmc (approx 120 lbs.) per 600 gallon batch.
5. Add 1 cup (1 pt) of Biocide per 600 gallon batch.
6. Add 1 ounce of silitech if foaming occurs.
7. Mix batch for 30 minutes minimum.
8. Transfer batch to feed tank.
9. Start cooling tower fan pump.
10. Start liquor feed tank mixer. Run minimum 10 minutes.
11. Turn on Steam
12. Recirculate liquor thru the heat exchange back to tank until liquor is 255°F, ± 10 degrees.
13. Open liquor feed line to homogenizer. Close recirculation valve.
14. When temperature gets to 260° start homogenizer
15. Start homogenizer.
16. Open valve to heat exchanger to let product flow
17. Start sulfur feed pump. Set RPM@500.
18. Start pump @ sample tank.
 - a. Pull a 1 pt. sample from the sample tank approximately 10 minutes after start up.
 - b. Solids test is performed. QWI-18.
 - c. Any adjustment required ± is achieved by resetting the RPM on the sulfur pump. Adjustments are made in multiples of 10.
 - d. Immediately after any adjustment a new sample is retested. This process is repeated if necessary.
19. Turn on mixer in adjustment tank when level is above 50%.
20. Add 1 cup (1 pt) of Zanthan Gum and 3 cups (3 pts) of soda ash to adjustment tank.
21. Continue to mix until tank is full. Transfer to storage.
22. At load out a sample is pulled from the load and COA testing performed.
23. Sample is retained for a minimum of 30 days.

2.0 INCOMING INSPECTION

None required

3.0 PROCESS CONTROL DOCUMENTATION

Results recorded in the In-process Log Book.

4.0 IN-PROCESS INSPECTION / TESTING

	<u>Inspector</u>	<u>Frequency</u>	<u>Documentation</u>
VISCOSITY	Fluid Plant Operator	Once per shift	In-process Log Book
% SOLIDS	Fluid Plant Operator	Once per shift	In-process Log Book

5.0 ACCEPT / REJECT CRITERIA

Lab analysis must conform to customer specifications

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6.0 CONTROL OF NONCONFORMING PRODUCT

Nonconforming product is adjusted to meet specifications.

7.0 GAGES / TEST EQUIPMENT

Viscometer

Electronic Scale

8.0 PRODUCT IDENTIFICATION AND TRACEABILITY

Fluid Plant Operator records the storage location of produced material in the In-process Log Book. Each subsequent shipment also references the location that material was pulled from in the Outgoing Log Book.