ADMIX COLD START UP AND SHUTDOWN

PURPOSE:

- To describe a safe operating procedure for starting up and shutting down of Admix operation.

SCOPE:

- Providing guidance in the training, qualification, and execution of this task by responsible personnel.
- The procedure also highlights the steps to be taken in occurrence of failure.

RESPONSIBILITY:

Control Room Operator: Responsible for running admix operation as per production plan, product quality and ensuring the stability of the admix process.

Shift E&I: Provides electrical support for the Control Room Operator as may be necessitated by the process / equipment conditions.

Team Leader: Ensures strict adherence to floor and operation standard across MSG Admix operation. Also oversees buggy floor operation.

Admix runner: Responsible for raw material availability and allocation to the right dump spots. He also provides operational support for the Control Room Operator as required by the process / equipment conditions

POTENTIAL RISKS:

-Slip

-Bruise

REQUIRED PPE:

- Safety Shoe,
- Cotton Glove

SOP OWNER	HSE APPROVAL	QA APPROVAL	AUTHORISATION
Agbadu Lawrence	Adebiyi Adedoyin	Alawode Olujide	Daramola Nadeeb
Date: 11/02/22	Date: 11/02/2022	Date: 11/02/22	Date: 11/02/2022

PROCEDURE:

PREWORK

1. Ensure that all raw material big bags are hung on their specific dumping spot before starting up.
2. Ensure that feeders' loadcells are unlocked.
3. Confirm that weigh belts calibration check has been completed as per plan. If not, conduct the calibration check
4. Confirm that perfume panel and admix panels (Panel 121, Enzymes and 181) are powered ON.
5. Confirm that a drum of perfume is staged on the skid and that the silo has been refilled.
6. Check that the Brabender OP12 parameters are correct referencing the parameters' sheets.
7. Confirm that service 'Factory Talk Transaction Manager' is running.

Please refer to 'Admix Startup Checklist (Attachment 4)' for steps 1 to 7 above.

ADMIX SATRTUP

8. Take BP and BP reblend weigh belts to auto-mode.
9. From the SCADA, click 'Admix' tab.
10. From the displayed Admix Screen, click 'Recipe' tab
11. Click on 'Chose recipe' drop down box and select recipe according to the formulation.
12. Click 'Download'.
13. As per production plan, enter the value of total required production.
14. Click 'Ok'.
15. Close 'Recipe'
16. On 'Overview screen, click 'Pending'; then verify setpoint.
17. Enter recipe rate as per formula and of mix drum speed.
18. Click on 'Save' and 'Copy to Active Recipe' tabs.
19. Confirm that the right perfume valve based on formulation is opened.

For Brand change over:

20. Close the manual valve for the Brand A Perfume tank on the perfume skid and with the aid of the Pneumatic air system in the perfume line, flush out the perfume of Brand A remaining in the line into the mix drum; the blown powder from the flush out should be tagged as reblend.
22. Drain the remnant perfume with a pneumatic air on the line into a dedicated plastic container.
23. Pump the perfume pump B into the perfume pump B holding tank.
24. Run perfume pump for 5 secs collecting perfume (this should clear Brand A perfume from the system).
25. Change the recipe on the admix Scada to the new formula (Brand B)
26. Clean the BFS hopper walls and gates thoroughly of all minors (e.g., speckles) and dump as 'clean out' to the Buggies for Evacuations.
27. Once Brand B BP is available (confirmed to be good BP), start mixing operation
28. Inform Buggy Floor Operation for operation readiness ensuring a 'Startup Buggy' is positioned at the BFS
29. Go to Admix 'Overview' screen on the SCADA and click 'Start'.
30. Closely watch all equipment as they are started up with respect to the startup sequence. ***(In case of abnormality, inform the Admix runner)***

31. Go to 'Production Screen' to monitor feeder deviations.
32. Should the line be stable for > 120 seconds, inform the buggy floor operator to open the BFS valve, collect the "Startup buggy" and replace with an empty buggy.

To use reblend: follow the steps below:

33. On the 'Production Screen', click 'Adjust recipe' and enter reblend percentage and press 'Enter'. Ensure the guidelines of the reblend matrix is followed strictly.

To change recipe rate, follow the steps below:

34. Go to 'Production' page; click 'Adjust Recipe'
35. Enter a new rate and click 'OK' Or;
36. Go to 'Overview' screen; click 'Adjust Rate'
37. Enter new value and click 'OK'

COLD SHUTDOWN

38. Change the Admix recipe to "Blown Powder Recipe" on the SCADA
39. Run out the Base powder bins into the buggies from the control room as blown powder buggies and tag accordingly.
40. Go to the 'Overview' screen on the SCADA.
41. Click 'Stop' tab and closely monitor the shutdown sequence.

Note that

- ***As soon as 'Base powder' intermediate hopper is empty, the base powder and additive feeders are stopped.***
- ***60 seconds after the addition system is stopped, the two addition belts (belts 1 and 2) are stopped.***
- ***30 seconds after the two belts are stopped; the 'Mixdrum' must stop.***

42. Turn off mixer and enzyme DCS filters.

For a long period, shutdown, complete the 'Admix Shutdown Checklist'

HARD POINTS

43. Maximum allowed admix rate is 10000 Kg/hr.
44. Admix cold start operation is started with a start-up buggy which is tagged as start-up reblend
45. The reblend matrix must be followed strictly when production is done with reblend.
46. Admix operation is started with reblend buggy for the first 120 seconds.
47. FactoryTalk transaction manager is to be checked at the beginning of every shift
48. Microsoft SQL Server needs to be started and **connected** at the beginning of startup.
49. BP and BP reblend weigh belts must be in auto-mode during run.
50. The Anti-Static earthing clamp for the SEA and Percarbonate bigbags must be in place.

Definition of Terms:

Cold Start-Up: Cold start up corresponds to the start of a new finished product brand from the Admix or a fresh start up after a Cold Shutdown of admix operation.

Cold Shut Down: Cold shut down corresponds to the normal stop of Admix operation. This occurs at the end of production.

SCADA: Supervisory Control And Data Acquisition.

BFS: Buggy Filling Station.

BP: Base Powder

E&I: Electrical & Instrumentation Technician.

FP: Finished Product

REASON FOR UPDATE

VERSION 0: New SOP

End Of Procedure

SOP Related Attachments

Attachment 1: Training & Qualification

Attachment 2: Model Answers

Attachment 3: Brabender Alarms Troubleshooting Guide.

Attachment 4: Admix Startup Checklist

Attachment 5: Admix Shutdown Checklist

Attachment 6: Step-up card