

EU 003, Bay 5

PART NO: 79005000 79004800 1013947
 (circle one) 79006110 79006200

Approval Signature: Mattew Nim 7/19/2010

Form Revision: V

FIRST PIECE INSPECTION

Manufacturing Cell Description: NA-251 Dual Stage and ADI Pellets NA-103B Tab Pellets <u>NA-371 Pellets</u>	Cell Designator: <u>GO (Bay 3)</u> or GT (Bay 5) (Circle the Cell)	Date: 7-27-10 Shift: 1 st 2 nd 3 rd
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PROCESS SETUP CRITERIA Start Wt.: <u>41.95</u>	INITIALS
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1. Verify that the Scrubber Water Level is acceptable.
2. Press Bay Scrubber Inlet pressure: 3.0 (inches of water)*
3. Verify the granule part number is correct for the pellets to be pressed according to the following list, and check configuration/dimensional limits.

Check one	Pellet P/N	Granual P/N	Pellet Height ±0.1	Pellet Weight	Pellet Diameter	Pellet Density	Crush. Strength
	79005000	79005100	2.5mm	103-113mg	5mm	2.12-2.18	5kp min
	79005000	79005100	2.2mm	88-98mg	5mm	2.12-2.18	5kp min
	79006110	79006100	2.4mm	159-169mg	6.35mm	2.12-2.18	15kp min
	79006200	79006100	2.5mm	103-113mg	5mm	2.12-2.18	5kp min
✓	79004800	79004600	2.4mm	159-169mg	6.35mm	2.12-2.18	5kp min
	1013947	79006100	2.95mm	195-221 mg	6.35mm	2.12-2.18	15kp min
	1013947	79006100	3.1mm	202-221 mg	6.35mm	2.12-2.18	15kp min
	1013947	79006100	3.2mm	208-228 mg	6.35mm	2.12-2.18	15kp min

4. Record Granule lot number. Lot # CPV203A-5
5. Remove rejected material from last press run.
6. Verify granule moisture is not greater than 0.3%. Moisture: 0.3%
7. Verify tooling to be used is present in all stations.
8. Verify dedusters have bolts, nuts, screws, and washers in place and secure.
9. Verify that receiving final product containers are placed on the rolling cart and underneath the deduster on both sides.
10. Verify that all the socks and powder chutes are aligned for a proper pellet and granule flow. (for example: Sock and Chute connected from the press to the deduster, the sock that is on the discharge end of the deduster to the receiving container, the sock that connects the press hopper to the chute)
11. Verify that bin-docking station on the second level is clean and free of debris.
12. Remove the docking station cover and verify that the collar is inflated. (for Bay 5 only)
13. Verify that the screen on the docking station is free of generant.
14. Remove the docking station cover. (for Bay 3 only)
15. Inspect conductive cover for deterioration or holes. If found please notify your cell lead or supervisor.
16. Remove the metal lid bin seal from the bin that is ready to be process and replace it with the conductive cover.
17. Verify that oiler is on/open before starting of blend and that the correct amount is flowing.
18. Verify that VCR's are recording before starting process
19. Record Press Start Time: 5:50 AM
20. Set up press for required pellet dimension per operator instructions.
21. After press has reached steady granule flow, obtain ten pellet samples.
22. Verify Relative Humidity (RH) in press bay is between 40% and 60%. Record the reading: 55%
23. Record Press stop time: 7:10 AM
24. Verify that press is vacuumed after the run.
25. Rate = Start wt (kg)/ Press Time (hrs) = 31.54

NOTE: If rate in Bay 5 (GT) is > 22.73 kg/hr notify supervisor immediately.
 If rate in Bay 3 (GO) is > 45 kg/hr notify supervisor immediately
 Total Press Time (hrs) = minutes / 60 1.33

1. cm
2. cm
3. cm
4. cm
5. cm
6. cm
7. cm
8. cm
9. cm
10. cm
11. cm
12. NA
13. cm
14. cm
15. cm
16. cm
17. cm
18. cm
19. cm
20. cm
21. cm
22. cm
23. ap
24. ap
25. ap

* The Press Bay Scrubbers' pressure drop should be between 4.5 and 8.5 inches of water.

PART NO: 79005000 79004800 1013947
 (circle one) 79006110 79006200

EU 003, Bay 5

Approval Signature: Matthew Nini 7/19/2010

Form Revision: V

FIRST PIECE INSPECTION

Manufacturing Cell Description: <u>NA-251 Dual Stage and ADI Pellets</u> <u>NA-103B Tab Pellets</u> NA-371 Pellet	Cell Designator: <u>GO (Bay 3) or GT (Bay 5)</u> (Circle the Cell)	Date: <u>8-11-10</u> Shift: <u>1st</u> 2 nd 3 rd
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PROCESS SETUP CRITERIA **Start Wt.:** 44.50 **INITIALS**

1. Verify that the Scrubber Water Level is acceptable.
2. Press Bay Scrubber Inlet pressure: 3.0 (inches of water)*
3. Verify the granule part number is correct for the pellets to be pressed according to the following list, and check configuration/dimensional limits.

Check one	Pellet P/N	Granul P/N	Pellet Height ±0.1	Pellet Weight	Pellet Diameter	Pellet Density	Crush Strength
<input checked="" type="checkbox"/>	79005000	79005100	2.5mm	103-113mg	5mm	2.12-2.18	5kp min
<input type="checkbox"/>	79005000	79005100	2.2mm	88-98mg	5mm	2.12-2.18	5kp min
<input type="checkbox"/>	79006110	79006100	2.4mm	159-169mg	6.35mm	2.12-2.18	15kp min
<input type="checkbox"/>	79006200	79006100	2.5mm	103-113mg	5mm	2.12-2.18	5kp min
<input type="checkbox"/>	79004800	79004600	2.4mm	159-169mg	6.35mm	2.12-2.18	5kp min
<input type="checkbox"/>	1013947	79006100	2.95mm	195-221 mg	6.35mm	2.12-2.18	15kp min
<input type="checkbox"/>	1013947	79006100	3.1mm	202-221 mg	6.35mm	2.12-2.18	15kp min
<input type="checkbox"/>	1013947	79006100	3.2mm	208-228 mg	6.35mm	2.12-2.18	15kp min

4. Record Granule lot number. Lot # GPV167A0006.
5. Remove rejected material from last press run.
6. Verify granule moisture is not greater than 0.3%. Moisture: 58%
7. Verify tooling to be used is present in all stations.
8. Verify dedusters have bolts, nuts, screws, and washers in place and secure.
9. Verify that receiving final product containers are placed on the rolling cart and underneath the deduster on both sides.
10. Verify that all the socks and powder chutes are aligned for a proper pellet and granule flow. (for example: Sock and Chute connected from the press to the deduster, the sock that is on the discharge end of the deduster to the receiving container, the sock that connects the press hopper to the chute)
11. Verify that bin-docking station on the second level is clean and free of debris.
12. Remove the docking station cover and verify that the collar is inflated. (for Bay 5 only)
13. Verify that the screen on the docking station is free of generant.
14. Remove the docking station cover. (for Bay 3 only)
15. Inspect conductive cover for deterioration or holes. If found please notify your cell lead or supervisor.
16. Remove the metal lid bin seal from the bin that is ready to be process and replace it with the conductive cover.
17. Verify that oiler is on/open before starting of blend and that the correct amount is flowing.
18. Verify that VCR's are recording before starting process
19. Record Press Start Time: 8:40
20. Set up press for required pellet dimension per operator instructions.
21. After press has reached steady granule flow, obtain ten pellet samples.
22. Verify Relative Humidity (RH) in press bay is between 40% and 60%. Record the reading: 58%
23. Record Press stop time: 10:20
24. Verify that press is vacuumed after the run.
25. Rate = Start wt (kg)/ Press Time (hrs) = 24.85
NOTE: If rate in Bay 5 (GT) is > 22.73 kg/hr notify supervisor immediately.
If rate in Bay 3 (GO) is > 45 kg/hr notify supervisor immediately
Total Press Time (hrs) = minutes / 60 1.67

1. MC
2. MC
3. MC
4. MC
5. MC
6. MC
7. MC
8. MC
9. MC
10. MC
11. MC
12. MC
13. MC
14. MC
15. MC
16. MC
17. MC
18. MC
19. MC
20. MC
21. MC
22. MC
23. MC
24. MC
25. MC

* The Press Bay Scrubbers' pressure drop should be between 4.5 and 8.5 inches of water.

EU 004

PROCESS RATE CALCULATIONS - Bldg 7

Date: **13-May-10**

Cell GQ - P/N 79005420			
		1st shift	3rd shift
# Hours in shift(8 or 10)		8	
		10	10
Total Material Processed	40		
Total Minutes needed	320		
Process Rate(kg/hr)	7.50		
Process Rate lb/hr*	16.5		
		Total Productivity	
		1st shift	3rd shift
		80.0%	0.0%

* If process rate exceeds 18.85 lbs/hr contact Supervisor

Cell GF - P/N 79800110/79800111			
		1st shift	3rd shift
# kg's pressed & canned		34.85	
	# Hours in shift(8 or 10)	10	10
Total Material Processed	34.85	3rd shift	
Total downtime 1st shift(% of shift)	30.83		
Total downtime 3rd shift(% of shift)	0.00		
Total downtime of 24 hour day	0.128		
Total Time available of 24 hour day	0.83333333		
Process Rate(kg/hr)	2.06		
Process Rate lb/hr*	4.532217		
		Total Productivity	
		1st shift	3rd shift
		72.6%	0.0%

* If process rate exceeds 24 lbs/hr contact Supervisor

Cell Lead/Supervisor Signature: _____

XSG09003
Rev. C
MCN # 14378
5/1/2008

EU 004

PROCESS RATE CALCULATIONS - Bldg 7

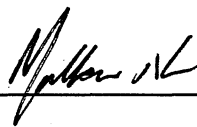
Date: ²² ~~21~~-May-10

Cell GQ - P/N 79005420			
		1st shift	3rd shift
# Hours in shift(8 or 10)		5	
		10	10
Total Material Processed	25	Total Productivity	
Total Minutes needed	200	1st shift	3rd shift
Process Rate(kg/hr)	7.50	50.0%	0.0%
Process Rate lb/hr*	16.5		

* If process rate exceeds 18.85 lbs/hr contact Supervisor

Cell GF - P/N 79800110/79800111			
		1st shift	3rd shift
# kg's pressed & canned		36.65	
	# Hours in shift(8 or 10)	10	10
Total Material Processed	36.65	3rd shift	
Total downtime 1st shift(% of shift)	38.33		
Total downtime 3rd shift(% of shift)	0.00		
Total downtime of 24 hour day	0.160		
Total Time available of 24 hour day	0.83333333	Total Productivity	
Process Rate(kg/hr)	2.27	1st shift	3rd shift
Process Rate lb/hr*	4.987423	76.4%	0.0%

* If process rate exceeds 24 lbs/hr contact Supervisor

Cell Lead/Supervisor Signature: 

XSG09003
Rev. C
MCN # 14378
5/1/2008

KEY KEY SYSTEM CELL DESIGNATOR: GW

EU 006

PART NO: 79000160

PRODUCT DESCRIPTION: NA-227, NON-AZIDE GENERANT, GRANULES

DATE: 5-21-10

Batch Lot Number: GWV141A05

CELL LEADER OR SUPERVISOR: Weston

SHIFT: (A) B C

OP. NUMBER / DESCRIPTION	Process Notes									
	COMPONENT & PART NUMBER	FORMULATION PERCENT	SUPPLIER LOT NUMBER	Required Weight (kg)			Actual Weight Added (kg)	Operator Initials	Date	
TOTAL BATCH WEIGHT TO BE 45.05 KG			Min.	Target	Max.					
OP 60 Weighout Ingredients and Screen into Generant Bin	Ground Nitroguanidine P/N 79000163	50.0 ± 0.5	FBPV139C12 139C-11	22.3	22.5	22.7	22.5	MW		
	Ground Strontium Nitrate P/N 79005700	35.0 ± 0.5	OCV139A0001	15.6	15.8	16.0	15.8		5	
	Ground Potassium Nitrate P/N 79005600	6.0 ± 0.2	OCV127A0001	2.61	2.70	2.79	2.70			
	Mica P/N 79005200	8.0 ± 0.2	70040701	3.51	3.60	3.69	3.60	MA	21	
	Cupric Oxide P/N 79000162	1.0 ± 0.2	80080101	0.36	0.45	0.54	0.45			
							Total	45.05		10
	Verify relative humidity (RH) in Bay is between 40% and 60%. Notify Supervisor if out of range. Record the reading: 64%								MW	
	Weighout Bay Scrubber (#4) inlet pressure 4.0 (inches of Water) Reading should be between 3.0 and 4.6 inches of water, if outside this range don't process, stop and notify technician)									
	DVR and monitor are operational and recording									
	Verify scrubber water level is acceptable									
Verify generant blending bin is clean and dry and that bin valve actuation block is secure										
Verify generant blending bin discharge valve is closed and seated										
Verify scrubber is on and dust hood is functional										
Verify ingredient screen is present at bin lid opening										
Grounding strap connected to generant bin prior to weighout										
Weighout Start Time: 6:30 (start time is time operator begins retrieving material to conduct weighout)										
Weighout Finish Time: 7:00 (Finish time is time when operator removes bin from scale)								MW		

SAFETY SYSTEM CELL DESIGNATOR: GW

EU 006

PART NO: 79000160

PRODUCT DESCRIPTION: NA-227, NON-AZIDE GENERANT, GRANULES

DATE: 5-21-10

Batch Lot Number: GUV141A03

CELL LEADER OR SUPERVISOR: Weston

SHIFT: (A) B C

OP. NUMBER / DESCRIPTION	Process Notes			
OP 60 CONT.	Total Minutes: 30	Minutes / 60 = total Hours .5	MW	
	Rate = $\frac{\text{Amount of Material}}{\text{Total Hrs.}}$ = 90.1			
	If rate exceeds 133kg / hr notify HSE immediately NEVER process more than three batches in one hour			
	Verify generant bin lid seal is in place after removing ingredient screen			5/21
Bin blending lid on bin and secured with clamp		MW	10	

OP 70 Generant Blending	Verify DVR and Monitor are Operational and Recording			5-21
	Verify granule bin lid with two paddles is clamped to top of container.			
	Verify clap on lid is facing at back or at front of tumbler entrance			
	Retention strap secured across front of tumbler cradle			
	Verify tumbler control panel counter set to 900 revolutions			
Tumble bin a minimum of 900 times per operator instruction.	Start Time: 11:05 Stop Time: 11:50			5-21

Dry Blend Finished in Bay 4 use YSG09035 or Blend wet mixed at Bldg 10, Bay 2 (Circle one)

After dry blend is finished in Bay 4 place paperwork in control hallway in Bldg 10.
If dry blend mixed in Bldg 10 Bay 2 keep paperwork with blend until complete.

Operator Initials Date

OP 80 Wet Mix, Granulation and Drying	Verify relative humidity (RH) in Bay is between 40% and 90%. Record the reading: 72%		HA	5-25
	Granulation Bay Scrubber (#5) inlet pressure: 5.0 (inches of water) ** (pressure should be between 3.5 and 7.5 inches of water – if outside range do not process, stop and notify technician)		HA	5-25
	Verify DVR and monitor are operational and recording		HA	5-25
	Verify receiving bin or drum is clean and dry and that bin actuation block is secure		HA	5-25
	Verify receiving bin discharge valve is closed and seated or drum is secure		HA	5-25
	Grounding strap connected to generant receiving bin or drum		HA	5-25
	Verify fluid bed dryer weir is up and overs screen is in place and clear of material.		HA	5-25

PRODUCT DESCRIPTION: NA-227, NON-AZIDE GENERANT, GRANULES

Batch Lot Number: CAW141A-5

EU 006

CELL LEADER OR SUPERVISOR: Maria W

SHIFT: (A) B C

JP 80 CONT.		SHIFT: (A)	B	C
	Verify fluid bed dryer assembly and that screw clamps are tightened	HA		5:25
	Verify chiller is on and functional	HA		5:25
	Verify Teledyne mixer extrusion screen/plate is present, clear, and undamaged	HA		5:25
	Accurate feeder screen is clean and not damaged	HA		5:25
	Verify flexible connection between bin station discharge and AccuRate hopper is secure	HA		5:25
	Verify scrubber water level is acceptable	HA		5:25
	Verify that the vibrator for the accurate feeder is operating when wier is in the up position	HA		5:25
	Docking station slide place is open and clear from debris etc.	HA		5:25
	Accurate feeder screen is clean and free of debris	HA		5:25
	Verify Alexanderwerk screen present, cutting perforations not damaged or worn, and there is proper blade clearance	HA		5:25
	Granulation Start Time: <u>5:00</u> (Start time begins when operator begins hoisting bin to docking station)	HA		5:25
	Granulation Finish Time: <u>7:05</u> (Finish time is time operator enters bay to seal completed bin of product)	HA		5:25
	Total Minutes: <u>120</u> Minutes / 60 = total Hours <u>2.08</u>	HA		5:25
	Rate = $\frac{\text{Amount of Material}}{\text{Total Hrs.}}$ = <u>21.30</u>			
	If rate exceeds 29.9kg / hr notify Supervisor or Lead, and HSE immediately	HA		5:25