Process/Product Audit Checklist

Cust #: 9509 Customer: Arrow GRP/Size/GRD/Width: TGVC/12D/53640/1.18

PWC: CLO W/O#: 70807 Date: 1-27-18 Part #(s): CH.109X1.18 Auditor: Patrick Macias

Gauge Range: .109-.123 Actual Gauge: .110-.112 Width Range: 1.175-1.185 Width Actual: 1.185

Length Range: NA Length Actual: NA Other: NA Other Actual: NA

Other: NA Other Actual: NA Other: NA Other Actual: NA

Item	YES	NO	N/A	Comments/Action Taken (Required for NO)
Process Inspection Sheets filled out according to frequency and sampling required?	✓			
Correct raw material type and size?	✓			Tag(s) to use: 16208 Tag(s) used: 16208
Setup performed according to W/O?	✓			
Product is acceptable according to customer-specific requirements? [Fab: Is the Part Print Present & the correct Revision? Are required measurements documented?]	✓			[Fab: Print Rev:_____, W/O Rev:_____, Part Spec Rev:_____] (Leave blank if non-Fab audit)
Packaging is acceptable according to customer-specific requirements?	✓			
Visual Inspection performed and product meets requirements?	✓			
Out of spec noted, with actions taken?			✓	
Non-conforming material put into reject warehouse and physically put into non-conforming area?			✓	
Required gages available & functional?	✓			
All Gages Calibrated (List in Comments)	✓			Gages Observed (list last calibration and when due) caliperSH-1 1-9-18 Due 12/18 mic MB21 11/18 Due 12/18
Housekeeping: Machine/Floor clean? Loose tags & paperwork cleaned up?	✓			
Required PPE being worn?	✓			
Forms are the latest revision per Quality Intranet?	✓			List Forms (Observed Rev vs Intranet Rev) 3DM4 - Rev 7 / Rev 7 3DM - Rev 4 / Rev 4
Hardcopy Controlled Documents are listed on Quality Intranet by location?	✓			List Documents and their Location: CVV-SL-001 Rev1 Quality Intranet

CLV-SL-001	Slitter Procedure

Loopco (Slitter) Procedure

1. Slitter schedule to be used to stage coils in the order of use. If lineup is changed, Production Planner or Plant Manager will notify Slitter Operator and correct the schedule.
2. Use Work Orders "Order Spec" and "Arbor Setup" sections to determine sizes that will be input into C.A.S.S. system, which produces Arbor setup print out.
3. Coil is loaded onto slitter and tag is given to Slitter Operator to verify that the correct coil is fed up per the work order.
4. Operator loads the gauge range from the "Job Specifications" section of the Work Order into Gamma Computer.
5. Operator checks knife clearance, if clearance is correct, material is fed through knives. If clearance is incorrect, necessary adjustments are made.
6. Operator checks burr, gauge (edge-crown-edge) and Rockwell (if required). Information is recorded on JDM 3 or JDM 4.
7. Cuts ran out on table and checked for width, also recorded on JDM 3 or JDM 4.
8. Width of master coil, at entry side of knives checked per Inspection Checkpoints 8.3.3.
9. Operator & Helper inspect material during processing for any defects that do not meet specifications (Work Order Info).
10. If any check does not meet the Customer Part Specification/Job Requirements, QA (or Plant Manager) is notified and will contact sales with the information.
11. Sales to contact customer for deviation (if OK, this is noted on work order). Also, on occasion, based on knowledge of sales or customer needs, sales may also OK without notifying customer. If not OK'd by customer, Production Planner is notified so coil can be replaced. Status of removed coil to be determined at this time. (Typical dispositions include: placing in reject warehouse for MRB disposition, or application to another customer.)
12. Slit product is run to customer OD specification and banded to specification.
13. Material is packaged to specification, weighed & tagged, and moved to appropriate warehouse.

Revision Date	Revision Level	Changes Made
03/07/13	1	#4 Clarified data input for Gamma Computer
03/23/11	0	Original Version

AGT400 Coil Summary Report

Jemison Metals -- 60 Inch Loopco Slitter

Work Order: CLV 70807 Coil Number: 16208

Customer Name: ARROW Heat Number: MET11831380

Product: G30 Galvanized Nov-27-18 10:33 AM to 10:40 AM (clock 6.2 min/ run 5.2 min) Shift: 1

Average Thickness and Tolerance Data

Target	116.0 mil	Average^ 111.4 mil	Average - Target -4.6400 mil (-4.00%)
			Standard Deviation^ 0.7200 mil (0.62%)
Length	1190 ft	Above High Limit 123.0 mil	0 ft (0.0%)
Width	45.687 in	In Tolerance	1190 ft (100.0%)
Weight	20636 lbs	Below Low Limit 109.0 mil	0 ft (0.0%)

Max Thickness 113.0 mil at 1131 ft Min Thickness 109.7 mil at 1189 ft
Head Scrap 0 ft Tail Scrap 0 ft

Statistical Process Control Data

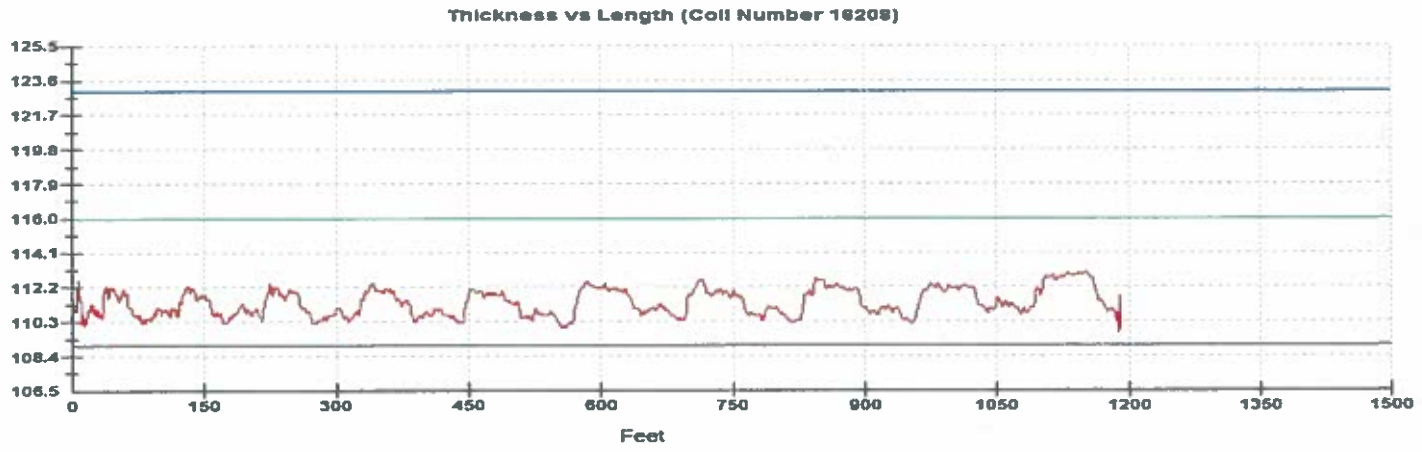
Upper Control Limit	113.5 mil	Upper Tolerance Limit	123.0 mil
X Double Bar	111.4 mil	R Bar	2.2 mil
Lower Control Limit	109.2 mil	Lower Tolerance Limit	109.0 mil

CR 30.9% (Capability Ratio %, 100/CP)
CP 3.241 (Process Capability, HiLim-LoLim/6*Sigma)
CPK 1.093 (Capability vs Limits) TMW Ratio 0.979(Low Limit/Avg)

Thickness Distribution Relative to the Target

```
  +++   0.0%
+10.0   0.0%
+ 9.0   0.0%
+ 8.0   0.0%
+ 7.0   0.0%
+ 6.0   0.0%
+ 5.0   0.0%
+ 4.0   0.0%
+ 3.0   0.0%
+ 2.0   0.0%
+ 1.0   0.0%
+ 0.0   0.0%
--1.0   0.0%
--2.0   0.0%
--3.0   0.8% **
--4.0  26.9% **************************************************
--5.0  34.8% ****************************************************************>
--6.0  37.4% ****************************************************************>
--7.0   0.1%
--8.0   0.0%
--9.0   0.0%
-10.0   0.0%
  ---   0.0%
          0     3     6     9    12    15    18    21    24    27    30    33   %
```

0.0% is within ± 2.0000 mil of the target 62.6% is within ± 5.0000 mil of the target
100.0% is within ± 10.0000 mil of the target 100.0% is within ± 20.0000 mil of the target



Gauge readings provided by Advanced Gauging Technologies, L.L.C. Plain City, OH 43064 USA Tel:(614) 873-6691