

Subject: Cleveland Process Audit

Date: July 2, 2015

Completed By: Steve Busicnki

On July 2, 2015, work order CLV 56509 was ran on the CLO for Arrow Tru-Line. Tag 66396 was verified prior to loading and use of the coil. The first piece of the material was measured at both edges and the crown with a micrometer. When fed through the arbors, three cuts of the material were measured for width with calipers. The same setup was used for this job as was used for the previous job. The master coil was split when the appropriate size was reached. The material was measured for gauge again at the split and at the end of the master coil.

The second master coil, 66403, was measured for gauge at the beginning of the second coil at both edges and the crown. The master coil was slit when the appropriate size was reached.

Upon review of the gauge charts, it appears as though a majority of the material is out of specification limits for the customer. It shows this way because Jemison enters the customers requested "aim to" numbers as our high and low limits. These numbers are half of the ASTM standard. The material is actually within specification for gauge and is acceptable to the customer.

Part Spec/PO Audit Form

Cust #	9509	Customer	Arrow Tru-Line	Grp/Sz/Grd/Width	TGVC / 0.0380 / S50G40 / 7.9690
Equip/Plant	PWC CLO	Work Order #	CLV 56509	Part No.	PD .0380 X 7.969 HDG
			Date	7/2/2015	
Work Order Information			Material to be Used		Actual
		Tag #1	66396	Gauge #1	.0385,.0395
		PO#		% Gauge in Spec	6.30%
Gauge Range	0.0380 - 0.0400	Gauge Min	.0380 Min	Low/High Gauge	0.0384/0.0430
Width Range	7.964 - 7.974	Width	48.1850"	Average	0.0409
Length Range	Coil			Width	7.971,7.971
Rockwell		Rockwell	Rockwell	Length	7.971,7.971
Tensile				Rockwell	Rockwell
Yield		Toll Processed	Toll Processed		.0385,.0395
% Elongation		GVC SS GR50	GVC SS GR50		.038,.039
Chem Rqmts		G40 .0380Min	G40 .0380Min		.0385,.0395
Other Rqmts		X 48.1850"	X 48.1850"	Other	
		1pc 44020lbs	1pc 43280lbs		
Summary					
Actions					
Final Status					

Slitting Order

Date: 7/2/15	Customer: Accord Tire-Line
Work Order #: CLV54509	Date Run: July 2, 2015

Incoming Inspection Checklist

Tag #	Gauge & Width	Type	Tag Wgt.	RB	Olsen	Actual Wgt.	Width	Mic
663910	.038 X 48.185	GVC	44,020			44,020	48 7/16	.0385 / .0385
66403			43,980			43,980	48 5/16	.038 / .038
66413			43,530			43,530	48 7/16	.038 / .038
								.0385

Cutting Instructions: 66413 7.969

Slit Tolerance: 7-.005	Max O.D: Split in half	Max Skid Wgt: 5,000	I.D: 20
Gauge Range: .038 / .040	Salesman:		

Special Instructions:

1 Cuts with some defect but okay to ship

_____ Cut Size
 N/A _____ Cut Weight
 _____ Defect
 _____ Approved By

2 Cuts Rejected

_____ Cut Size
 N/A _____ Cut Weight
 _____ Tag No. or No.'s
 _____ Reason for Reject

3 Ok to move material for shipment or to Stock

(4) _____ Name
 7/2/15 _____ Date

Slit Size Inspection

Date: July 8, 2015

Work Order: 11136509

Size of Cuts	Beginning Width	Mics	(Paxson Only) Middle Mics	End Width	Mics
7.949	7.971 7.970		Split @ 14 5/8	7.971 7.970	
	7.971	.038.5	.038	7.971	.038.5
	7.971		.039	7.971	
	7.969	.039.5	@ split	7.969	.039.5
	7.970			7.970	
7.969	7.971 7.970		Split @ 14 7/16	7.971 7.970	
	7.971	.039		7.971	.039
	7.971		.038.5	7.971	
	7.969	.040	.039.5 @ split	7.969	.039.5
	7.970			7.970	
7.969	7.971 7.970		Split @ 14 1/2	7.971 7.970	
	7.971	.038	.038.5	7.971	.038
	7.971		.039.5	7.971	
	7.969	.038.5	@ split	7.969	.039
	7.970			7.970	

DO ANY CUTS HAVE:

Rust/Stain

Burrs

Knife Marks

OK

Initials

J.P.

AGT400 Coil Summary Report

Jemison Metals -- 60 Inch Loopco Slitter

Work Order: CLV 56509 Coil Number: 66396

Customer Name: ARROW Heat Number: METR03388

Product: G30 Galvanized Jul-2-15 11:45 AM to 12:50 PM (clock 64.8 min/ run 17.1 min) Shift: 1

Average Thickness and Tolerance Data

Target 0.0390 in Average[^] 0.0409 in Average - Target 0.0019 in (4.95%)
Standard Deviation[^] 0.0007 in (1.69%)

Length 6829 ft Above High Limit 0.0400 in 6395 ft (93.7%)
Width 48.250 in In Tolerance 43 ft (6.3%)
Weight 45959 lbs Below Low Limit 0.0380 in 0 ft (0.0%)

Max Thickness 0.0430 in at 6828 ft Min Thickness 0.0384 in at 6 ft
Head Scrap 1 ft Tail Scrap 10 ft

Statistical Process Control Data

Upper Control Limit 0.0429 in Upper Tolerance Limit 0.0400 in
X Double Bar 0.0409 in R Bar 0.0020 in
Lower Control Limit 0.0390 in Lower Tolerance Limit 0.0380 in

CR 198.0% (Capability Ratio %, 100/CP)

CP 0.505 (Process Capability, HiLim-LoLim/6*Sigma)

CPK -0.470 (Capability vs Limits) TMW Ratio 0.928 (Low Limit/Avg)

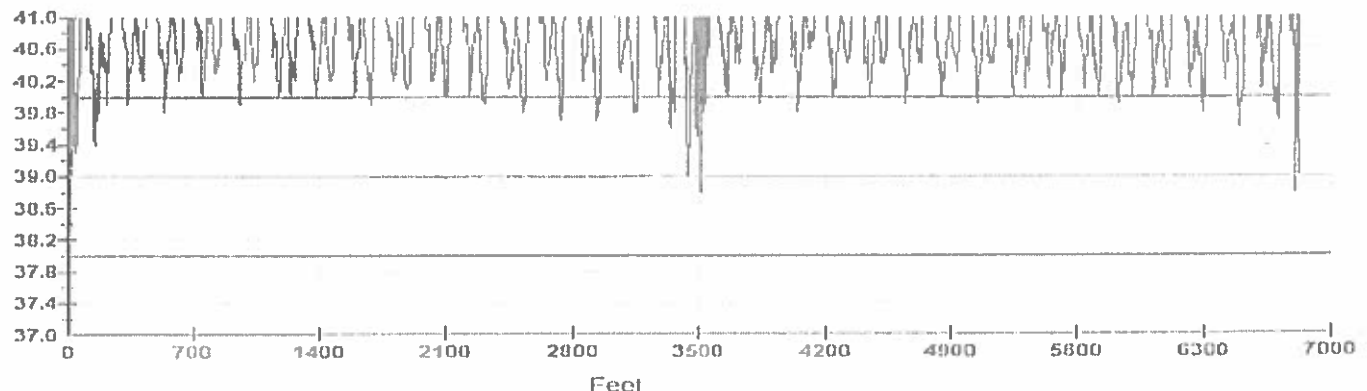
Thickness Distribution Relative to the Target

+++	0.0%
+0.0050	0.0%
+0.0045	0.0%
+0.0040	0.0%
+0.0035	0.1%
+0.0030	10.4%
+0.0025	13.2%
+0.0020	18.5%
+0.0015	32.3%
+0.0010	51.8%
+0.0005	1.2%
+0.0000	0.5%
-0.0005	0.1%
-0.0010	0.0%
-0.0015	0.0%
-0.0020	0.0%
-0.0025	0.0%
-0.0030	0.0%
-0.0035	0.0%
-0.0040	0.0%
-0.0045	0.0%
-0.0050	0.0%
---	0.0%

0 3 6 9 12 15 18 21 24 27 30 33 4

25.5% is within ± 0.0010 in of the target 89.5% is within ± 0.0025 in of the target
100.0% is within ± 0.0050 in of the target 100.0% is within ± 0.0100 in of the target

Thickness vs Length (Coil Number 66396)



AGT400 Coil Summary Report

Jemison Metals -- 60 Inch Loopco Slitter

Work Order: CLV 56509 Coil Number: 66403

Customer Name: ARROW Heat Number: METRT03388

Product: G30 Galvanized Jul-2-15 1:09 PM to 5:17 AM (clock 968.1 min/ run 727.3 min) Shift: 3

Average Thickness and Tolerance Data

Target 0.0380 in Average 0.0407 in Average - Target 0.0017 in (4.44%)
Standard Deviation 0.0007 in (1.69%)

Length 6719 ft Above High Limit 0.0400 in 5663 ft (84.3%)
Width 48.250 in In Tolerance 1956 ft (28.7%)
Weight 45003 lbs Below Low Limit 0.0380 in 0 ft (0.0%)

Max Thickness 0.0427 in at 67 ft Min Thickness 0.0389 in at 3342 ft
Head Scrap 1 ft Tail Scrap 8 ft

Statistical Process Control Data

Upper Control Limit 0.0427 in Upper Tolerance Limit 0.0400 in
X Double Bar 0.0407 in R Bar 0.0020 in
Lower Control Limit 0.0388 in Lower Tolerance Limit 0.0380 in

CR 198.0% (Capability Ratio %, 100/CP)

CP 0.505 (Process Capability, HiLim-LoLim/6*Sigma)

CPK -0.369 (Capability vs Limits) TMW Ratio 0.933 (Low Limit/Avg)

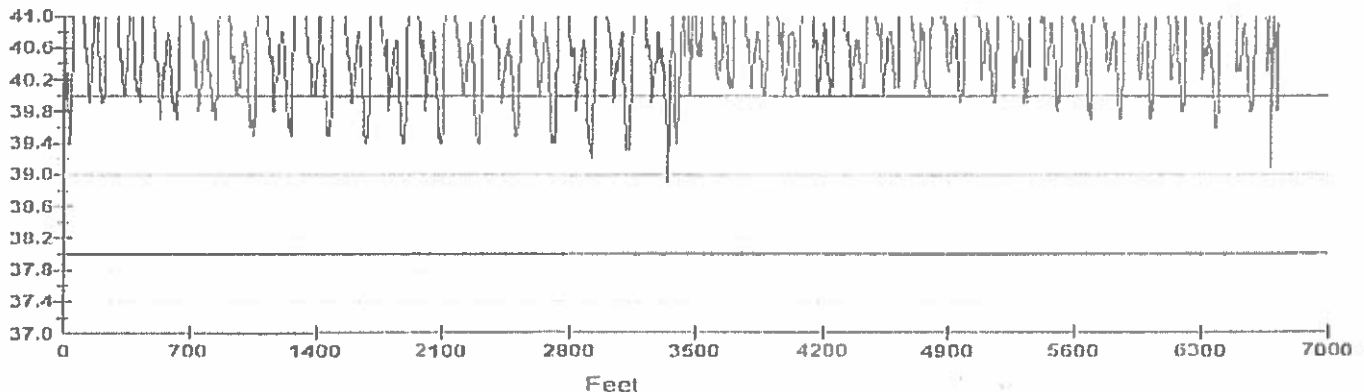
Thickness Distribution Relative to the Target

+++	0.0%
+0.0050	0.0%
+0.0045	0.0%
+0.0040	0.0%
+0.0035	0.2%
+0.0030	1.8%
+0.0025	14.9%
+0.0020	19.0%
+0.0015	29.2%
+0.0010	24.1%
+0.0005	0.5%
+0.0000	1.4%
-0.0005	0.0%
-0.0010	0.0%
-0.0015	0.0%
-0.0020	0.0%
-0.0025	0.0%
-0.0030	0.0%
-0.0035	0.0%
-0.0040	0.0%
-0.0045	0.0%
-0.0050	0.0%
----	0.0%

0 3 6 9 12 15 18 21 24 27 30 33 %

35.8% is within ± 0.0010 in of the target 98.0% is within ± 0.0025 in of the target
100.0% is within ± 0.0050 in of the target 100.0% is within ± 0.0100 in of the target

Thickness vs Length (Coil Number 66403)



AGT400 Coil Summary Report

Jemison Metals -- 60 Inch Loopco Slitter

Work Order: CLV 56509 Coil Number: 66413

Customer Name: ARROW Heat Number: METRT03388

Product: G30 Galvanized Jul-6-15 5:47 AM to 6:24 AM (clock 37.3 min/ run 20.4 min) Shift: 1

Average Thickness and Tolerance Data

Target	0.0396 in	Average	0.0403 in	Average - Target	0.0013 in (3.36%)
				Standard Deviation	0.0007 in (1.77%)
Length	6745 ft	Above High Limit	0.0400 in	4196 ft (62.2%)	
Width	48.250 in	In Tolerance		2548 ft (37.8%)	
Weight	44710 lbs	Below Low Limit	0.0380 in	1 ft (0.0%)	

Max Thickness	0.0425 in at	3461 ft	Min Thickness	0.0380 in at	19 ft
Head Scrap	1 ft		Tail Scrap	9 ft	

Statistical Process Control Data

Upper Control Limit	0.0424 in	Upper Tolerance Limit	0.0400 in
X Double Bar	0.0403 in	R Bar	0.0021 in
Lower Control Limit	0.0382 in	Lower Tolerance Limit	0.0380 in
CR	207.0% (Capability Ratio %, 100/CP)		
CP	0.483 (Process Capability, HiLim-LoLim/6*Sigma)		
CPK	-0.150 (Capability vs Limits)	TMW Ratio	0.943 (Low Limit/Avg)

Thickness Distribution Relative to the Target

+0.0050	0.0%
+0.0045	0.0%
+0.0040	0.0%
+0.0035	0.0%
+0.0030	0.4%
+0.0025	6.8%
+0.0020	11.3%
+0.0015	21.5%
+0.0010	28.6%
+0.0005	21.6%
+0.0000	7.5%
-0.0005	1.0%
-0.0010	0.1%
-0.0015	0.0%
-0.0020	0.0%
-0.0025	0.0%
-0.0030	0.0%
-0.0035	0.0%
-0.0040	0.0%
-0.0045	0.0%
-0.0050	0.0%
---	0.0%

60.0% is within ± 0.0010 in of the target 99.5% is within ± 0.0025 in of the target
100.0% is within ± 0.0050 in of the target 100.0% is within ± 0.0100 in of the target

Thickness vs Length (Coil Number 66413)

