

Subject: Cleveland Process Audit

Date: October 16, 2015

Completed By: Steve Busicnki

On October 16, 2015, work order CLV 57771 was ran on the PWC CLO for Morgal. Tag NI64162 was verified prior to loading and use of the coil. The operator measured the width of the master coil with a tape measure. The gauge was then measured with a micrometer at both edges and the crown of the material. Once fed through, the width of both cuts were measured with a tape measure and one with a set of calipers. The material was run and cut at the appropriate outer diameter. The gauge was measured again at the end of the finished coils at both edges and the crown before the arbors. 100.0% of the gauge was within the customer range. Micrometer readings verified material to be within specification.

Part Spec/PO Audit Form

Cust #	3004	Customer	Morgal			Grp/Sz/Grd/Wdth	AZC / 21.7300 / DB125S / 21.7300		
Equip/Plant	PWC CLO	Work Order #	CLV 57771	Date	10/16/2015	Part No.	9000149150		
Work Order Information		Material to be Used				Actual			
		Tag #1	NI64162	Tag #2		Gauge #1	.0365, .037	Gauge #2	
		PO#	20931-001	PO#		% Gauge In Spec	100.00%	% Gauge In Spec	
Gauge Range	0.0356 - 0.0396	Gauge Min	.0360 Min	Gauge Min		Low/High Gauge	0.0358 / 0.0388	Low/High Gauge	
Width Range	21.7200 - 21.7400	Width	46.3200"	Width		Average	0.0371	Average	
Length Range	Coil					Width	21.733 / 21.732	Width	
Rockwell		Rockwell		Rockwell		Length	Coil	Length	
Tensile						Rockwell		Rockwell	
Yield		A463 Aluminized							
% Elongation		Coil DS Type B							
Chem Rqmts		T125							
Other Rqmts		.0360Min X							
Wave	0.00 - .12	46.3200"				Other			
		1pcs 22,700lbs							
Summary									
Actions									
Final Status									

Slitting Order

Date: 10/15/15	Customer: Moebel
Work Order #: C115771	Date Run: Oct. 16, 2015

Incoming Inspection Checklist

Tag #	Gauge & Width	Type	Tag Wgt.	RB	Olsen	Actual Wgt.	Width	Mic
N1641102	.036 x 46.390	Azc	22,700	—	—	22,700	46 1/2	.0365
								.037

Cutting Instructions: 2 cuts 21.730

Slit Tolerance: ± .010	Max O.D: 38.72"	Max Skid Wgt:	I.D: 20"
Gauge Range: .035.4 / .039.4	Salesman:		

Special Instructions:

1 Cuts with some defect but okay to ship

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

2 Cuts Rejected

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

3 Ok to move material for shipment or to Stock

D. Ramsey Name
 10-17-15 Date

Slit Size Inspection

Date: Oct. 16, 2015 Work Order: CUV5771

[illegible]

DO ANY CUTS HAVE:

Rust/Stain

Burrs

Knife Marks

Initials

J.P.

AGT400 Coil Summary Report

Jemison Metals -- 60 Inch Loopco Slitter

Work Order: CLV 57771 Coil Number: NI64162

Customer Name: MORGAL Heat Number: M F84591

Product: T1-25 Aluminized Oct-16-15 12:32 PM to 12:40 PM (clock 8.1 min/ run 5.0 min) Shift: 1

Average Thickness and Tolerance Data

Target 0.0376 in Average^ 0.0371 in Average - Target -0.0005 in (-1.22%)
Standard Deviation^ 0.0007 in (1.97%)

Length 1895 ft Above High Limit 0.0396 in 0 ft (0.0%)
Width 46.375 in In Tolerance 1895 ft (100.0%)
Weight 11122 lbs Below Low Limit 0.0356 in 0 ft (0.0%)

Max Thickness 0.0388 in at 1871 ft Min Thickness 0.0358 in at 24 ft
Head Scrap 1 ft Tail Scrap 0 ft

Statistical Process Control Data

Upper Control Limit 0.0394 in Upper Tolerance Limit 0.0396 in
X Double Bar 0.0371 in R Bar 0.0022 in
Lower Control Limit 0.0349 in Lower Tolerance Limit 0.0356 in

CR 111.0% (Capability Ratio %, 100/CP)

CP 0.901 (Process Capability, HiLim-LoLim/6*Sigma)

CPK 0.694 (Capability vs Limits) TMW Ratio 0.959 (Low Limit/Avg)

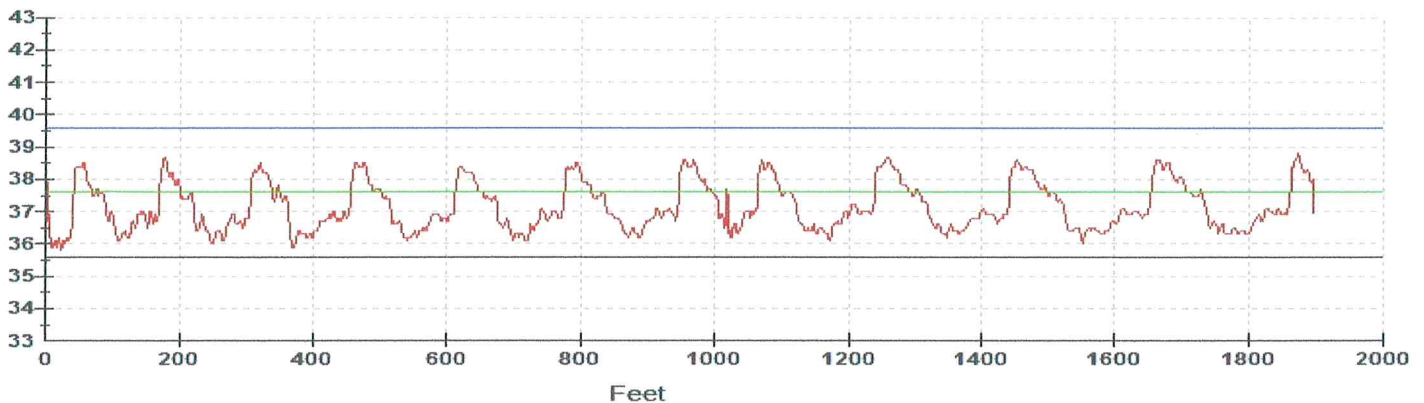
Thickness Distribution Relative to the Target

+++	0.0%	
+0.0050	0.0%	
+0.0045	0.0%	
+0.0040	0.0%	
+0.0035	0.0%	
+0.0030	0.0%	
+0.0025	0.0%	
+0.0020	0.0%	
+0.0015	0.0%	
+0.0010	1.9%	****
+0.0005	15.6%	*****
+0.0000	12.8%	*****
-0.0005	11.8%	*****
-0.0010	32.3%	*****
-0.0015	24.3%	*****
-0.0020	1.3%	***
-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 %

74.4% is within ± 0.0010 in of the target 100.0% 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 NI64162)



Greer Steel Company
624 Boulevard
Dover, OH 44622

Run Date: 10/16/2015
Run Time: 5:10:47 AM
User: CARSWIN

Customer: MORGAL
Order No: CLV PI-955640

Job Number: CLV 57771
Order Date: 10/16/2015

Master Coil Information:

Gauge(s)	Width(s)	Weight	PIW	Coil Usage	Coil Remain	Horizontal Clearances
0.0360	46.3200	22,700	490.07	43.4700 / 46.3200 / 93.85 %	2.8500 / 46.3200 / 6.15 %	0.0035 / 0.0035 / 10.00 % / 9.72 %

Strip Width Requirements:

Coil ID	Strip Qty	Strip Width	Mult Wt	Weight Strip	Knife Sizes One	Knife Sizes Two	Strip Clear	Comments
A	2	21.7350	10652	5326	0.2500	0.2500	0.0070	

Spacer Requirements:

Spacer Size	Quantity Required	Spacer Identity
0.0500	4	Steel
0.0505	2	Steel
0.0510	7	Steel
0.0520	3	Steel
0.0540	5	Steel
0.0580	2	Steel
0.0650	2	Steel
0.0800	4	Steel
0.1000	5	Steel
0.2000	5	Steel
0.4000	5	Steel
0.8000	1	Steel
1.6000	5	Steel
3.2000	34	Steel
Total:		84

The Arbor Setup - Arbor #1 - 60"

Strip Width Details

Bottom Arbor Shoulder			Top Arbor Shoulder		
1	Steel	0.0505			
1	Steel	0.0510			
1	Steel	0.0520			
1	Steel	0.1000			
Totals ==>>>>		0.2535	Totals ==>>>>		0.0000
1	.250	0.2500	1	.250	0.2500

Edge Trim: 1.4250
Single Clear: 0.0035

1	Steel	0.0510	1	Steel	0.0500
1	Steel	0.0540	1	Steel	0.0510
1	Steel	0.0580	1	Steel	0.0540
1	Steel	0.0650	1	Steel	0.0800
1	Steel	0.2000	1	Steel	0.1000
1	Steel	1.6000	1	Steel	0.2000
6	Steel	3.2000	1	Steel	0.4000
Totals ==>>>>		21.2280	Totals ==>>>>		21.7350
1	Black	0.8000	1	Red	0.2000
6	Black	3.2000	1	Red	0.4000
Totals ==>>>>		20.0000	1	Red	0.8000
1	.250	0.2500	6	Red	3.2000
Totals ==>>>>		20.0000	Totals ==>>>>		20.6000

Coil ID: A
Quantity: 2
Strip Width: 21.7350
Coil Weight: 10652
Total Weight: 21304
Strip Clearance: 0.0070
Comment:

Packing %-Female: 94.78 / 95.00
Packing %-Male: 94.22 / 95.00

1	Steel	0.0500	1	Steel	0.0510
1	Steel	0.0510	1	Steel	0.0540
1	Steel	0.0540	1	Steel	0.0580
1	Steel	0.0800	1	Steel	0.0650
1	Steel	0.1000	1	Steel	0.2000
1	Steel	0.2000	1	Steel	1.6000
1	Steel	0.4000	6	Steel	3.2000
1	Steel	1.6000	Totals ==>>>>		21.2280
6	Steel	3.2000	1	Black	0.8000
Totals ==>>>>		21.7350	6	Black	3.2000
1	Red	0.2000	Totals ==>>>>		20.0000
1	Red	0.4000	1	.250	0.2500
1	Red	0.8000	Totals ==>>>>		20.0000
6	Red	3.2000	Totals ==>>>>		20.0000
Totals ==>>>>		20.6000	Totals ==>>>>		20.0000

Coil ID: A
Quantity: 2
Strip Width: 21.7350
Coil Weight: 10652
Total Weight: 21304
Strip Clearance: 0.0070
Comment:

Packing %-Female: 94.78 / 95.00
Packing %-Male: 94.22 / 95.00

1	Steel	0.0500	1	Steel	0.1000
1	Steel	0.0505	1	Steel	0.4000
1	Steel	0.0510	Totals ==>>>>		0.2500
1	Steel	0.0520	1	Steel	0.0500
1	Steel	0.0800	1	Steel	0.0510
1	Steel	0.4000	1	Steel	0.0520
1	Steel	1.6000	1	Steel	0.0540
5	Steel	3.2000	1	Steel	0.0800
Totals ==>>>>		0.2500	1	Steel	0.1000
1	Steel	0.0500	1	Steel	0.2000
1	Steel	0.0505	1	Steel	0.4000
1	Steel	0.0510	1	Steel	0.8000
1	Steel	0.0520	Totals ==>>>>		0.2500
1	Steel	0.0800	Totals ==>>>>		0.2500
1	Steel	0.4000	Totals ==>>>>		0.2500
1	Steel	1.6000	Totals ==>>>>		0.2500
5	Steel	3.2000	Totals ==>>>>		0.2500

Edge Trim: 1.4250

It is the Users' Responsibility to Verify that all Input and Output is Accurate and the Setup is Safe

Totals ==>>>>	18.2835	5 Steel 3.2000	Totals ==>>>>	17.7870
Bottom Arbor End Nut		Top Arbor End Nut		

The Tension Stand Setup - Tension Stand #1			Details	
1 Micarta	0.0625		Stand Length:	67.0000
1 Micarta	0.1250		Stand Offset:	3.0000
1 Micarta	0.2500			
1 Micarta	2.0000			
Totals ==>>>>	2.4375			
End Disk	0.1250			
1 Micarta	0.0625		Coil Id:	A
11 Micarta	2.0000		Quantity:	2
Totals ==>>>>	22.0625		Strip Width:	21.7350
			Desired Clr:	22.1130 / 0.3780
			Actual Clr:	22.0625 / 0.3275
Separator Disk	0.1250			
1 Micarta	0.1250			
Totals ==>>>>	0.1250			
Separator Disk	0.1250			
1 Micarta	0.0625		Coil Id:	A
11 Micarta	2.0000		Quantity:	2
Totals ==>>>>	22.0625		Strip Width:	21.7350
			Desired Clr:	22.1130 / 0.3780
			Actual Clr:	22.0625 / 0.3275
End Disk	0.1250			
1 Micarta	0.0625		Total Strips:	43.4700
1 Micarta	0.2500		Total Space :	44.1250
1 Micarta	0.5000		Total Fan Out:	44.7500
1 Micarta	1.0000		Half Fan Out:	22.3750
9 Micarta	2.0000			
Totals ==>>>>	19.8125			

21.730

CW5777/

Spld@