Subject: Cleveland Process Audit

Date: December 18, 2015

Completed By: Steve Busicnki

On December 18, 2015, work order CLV 58456 was ran on the CR2 for Quaker. Tag 217650 was verified prior to loading and use of the coil. The widths were measured right after the knives with calipers 120. The length of one cut was checked at the beginning of the run using tape measure 1. All six cuts were then placed on flatness table 092726 and checked for imperfections. The gauge was measured using micrometer ASP016 and both edges and the crown. Six cuts from the second pass were placed on flatness table 092726 and checked for imperfections. All six cuts were rolled out and measured for length and width at the end of the run using tape measure 1. Based on the gauge report, 88.0% of the gauge was within the customer range, with 12.0% representing the edge drop off associated with the edge of the steel. Micrometer readings verified material to be within specification.

Measuring Tools:

Tape – 1 last calibration 09/15 calibration due 12/15

Micrometer – ASP016 last calibration 12/15 calibration due 01/16

Flatness Table – 092726 last calibration 11/25/14 calibration due 11/25/19

Step Gauge – ST2 last calibration 03/11/15 calibration due 03/11/17

Calipers – 120 last calibration 09/15 calibration due 12/15

Controlled Documents:

CLV-RB-002 rev date 03/07/13

JDM13 rev date 11/30/12

Part Spec/PO Audit Form

Cust #	8091		Customer	Quaker		
Equip/Plant	PWC CR2		Work Order #	CLV 58456	Date	12/18/2015
Work Order Information			Material to be Used			
			Tag #1	217650	Tag #2	
			PO#	21163-001	PO#	
Gauge Range	0.0270 - 0.0330		Gauge Min	.0267 Min	Gauge Min	
Width Range	8.8700 - 8.9300		Width	53.9100"	Width	
Length Range	90.4700 - 90.5300					
Rockwell			Rockwell		Rockwell	
Tensile						
Yield			A1008 Cold			
% Elongation			Rolled Coil			
Chem Rqmts			Extra Deep			
Other Rqmts			Drawing			
			.0267 Min X			
			53.9100"			
			1pcs 7,470 lbs			
Summary						
Actions						
Final Status						

Part Spec/PO Audit Form

Grp/Sz/Grd/Wdth	CRS / 0.0300 / EDDS / 8.9000		
Part No.	3126R RM		
Actual			
Gauge #1	0.027	Gauge #2	
% Gauge In Spec	88.00%	% Gauge In Spec	
Low/High Gauge	0.0265 / 0.0277	Low/High Gauge	
Average	0.0273	Average	
Width	8.901,8.910,8.888	Width	
Length	90.5000	Length	
Rockwell		Rockwell	
Width (cont.)	8.926,8.896,8.903		
Other			

Quality Checklist

Date: 12-18-2015 Customer: Quaker Work Order # 5845b Machine # CR2

Master Tag # 217650 Tag Weight: 7470 Type: CRC - 22B - CDMS Ordered RB:

	Gauge Tolerance .027 - .033			Width Tol: +/-.030	Length Tol: +/-.030	Square Tol: N/A	Flatness Tol: ~~+.20~~ N/A		
Skid Tag#	Edge	Crown	Edge	8-9 Width	90-5 Length	Square	Flatness	Inspected By	Date
	027	027	027	8.901 .910 .888	90.5	002	<1/2	QC	
Last piece of 1st bundle									

Skid Tag#	Edge	Crown	Edge	Width	Length	Square	Flatness	Inspected By	Date
				8.926 .896 .903					

Skid Tag#	Edge	Crown	Edge	Width	Length	Square	Flatness	Inspected By	Date
Last piece of last bundle									

AGT400 Coil Summary Report

Jemison Metals -- 75 Inch Red Bud CTL Line

Work Order: 58456 Coil Number: 217650

Customer Name: QUAKER Heat Number: AKS143760 Vendor: NLMK

Product: G90 Galvanized Dec-18-15 6:03 AM to 8:15 AM (clock 131.7 min/ run 17.5 min) Shift: 1

Average Thickness and Tolerance Data

Target	0.0300 in	Average*	0.0273 in	Average - Target	-0.0028 in (-9.17%)
				Standard Deviation*	0.0002 in (0.73%)
Length	1490 ft			Above High Limit 0.0330 in	0 ft (0.0%)
Width	53.910 in			In Tolerance	1311 ft (88.0%)
Weight	7457 lbs			Below Low Limit 0.0270 in	181 ft (12.0%)
Max Thickness	0.0277 in at	356 ft		Min Thickness 0.0265 in at	232 ft
Head Scrap	0 ft			Tail Scrap	0 ft

Statistical Process Control Data

CR	22.0%	(Capability Ratio %, 100/CP)
CP	4.546	(Process Capability, HiLim-LoLim/6*Sigma)
CPK	0.379	(Capability vs Limits)
TMW Ratio	0.991	(Low Limit/Avg)

Thickness Distribution Relative to the Target

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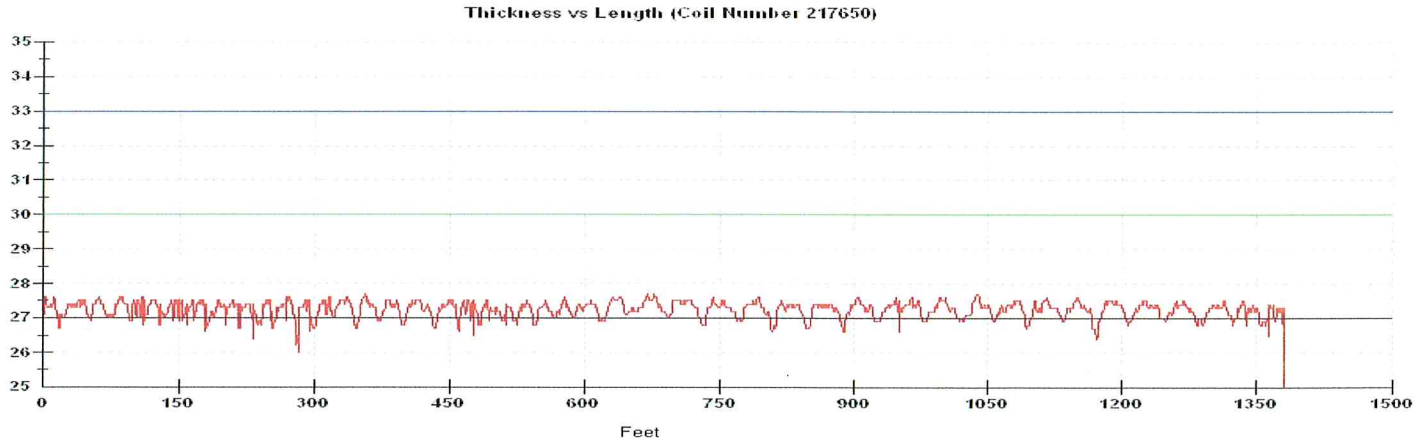
   +++   0.0%
+0.0050  0.0%
+0.0045  0.0%
+0.0040  0.0%
+0.0035  0.0%
+0.0030  0.0%
+0.0025  0.0%
+0.0020  0.0%
+0.0015  0.0%
+0.0010  0.0%
+0.0005  0.0%
+0.0000  0.0%
-0.0005  0.0%
-0.0010  0.0%
-0.0015  0.0%
-0.0020  0.0%
-0.0025 16.4% **********************************
-0.0030 71.6% ***************************************************************>
-0.0035 12.0% ------------------------
-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   %
```

0.0% is within ± 0.0010 in of the target 16.4% 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



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