

Subject: Cleveland Process Audit

Date: August 28, 2015

Completed By: Steve Busienki

On August 28, 2015, work order CLV 56795 was ran on the CR2 for Quaker. Tag 64876A was verified prior to loading and use of the coil. The width of each cut was measured when first fed through. One of the first pieces from each of the 5 cuts was measured for length, width, flatness, and square. The gauge was measured using a micrometer. The material for this job was inspected closely for roll marks and burr as the customer has mentioned these items in the past. The supervisor stated that the length, width and gauge were measured for the second pass but due to time constraints, the measurements for the second pass were likely not recorded on a Quality Checklist. Based on the gauge report, 99.2% of the material was within specification with an average thickness of 0.0349. This average is within the customers specification of 0.0340 – 0.0380.

Part Spec/PO Audit Form

Cust #	8091	Customer	Quaker	Grp/Sz/Grd/Wdth	CRS / 0.0370 / EDDS / 13.1250
Equip/Plant	PWC CR2	Work Order #	CLV 56795	Part No.	3171RM
		Date	8/28/2015		
Work Order Information		Material to be Used		Actual	
	Tag #1	64876A	Tag #2	Gauge #1	Gauge #2
	PO#	21162-001	PO#	% Gauge In Spec	% Gauge In Spec
Gauge Range	Gauge Min	.0335 Min	Gauge Min	Low/High Gauge	Low/High Gauge
Width Range	Width	66.1250"	Width	Average	Average
Length Range	Rockwell		Rockwell	Width	Width
				Length	Length
Tensile				Rockwell	Rockwell
Yield	A1008 Cold			Width (cont.)	13.113,13.153
% Elongation	Rolled Coil				
Chem Rqmts	Extra Deep				
Other Rqmts	Drawing				
	.0335 Min X			Other	
	66.1250"				
	1pc 21,080lbs.				
Summary					
Actions					
Final Status					

AGT400 Coil Summary Report

Jemison Metals -- 75 Inch Red Bud CTL Line

Work Order: 56795 Coil Number: 64876A

Customer Name: QUAKER Heat Number: AKS244507 Vendor: AK

Product: Cold-Rolled Steel Aug-28-15 6.18 AM to 7.29 AM (clock 70.6 min/ run 20.5 min) Shift: 1

Average Thickness and Tolerance Data

Target	0.0360 in	Average*	0.0349 in	Average - Target	-0.0011 in (-3.14%)
				Standard Deviation*	0.0003 in (0.86%)
Length	2542 ft	Above High Limit	0.0380 in	0 ft (0.0%)	
Width	60.250 in	In Tolerance		2521 ft (99.2%)	
Weight	20012 lbs	Below Low Limit	0.0340 in	24 ft (0.8%)	
Max Thickness	0.0356 in at	1862 ft	Min Thickness	0.0329 in at	1059 ft
Head Scrap	0 ft		Tail Scrap	0 ft	

Statistical Process Control Data

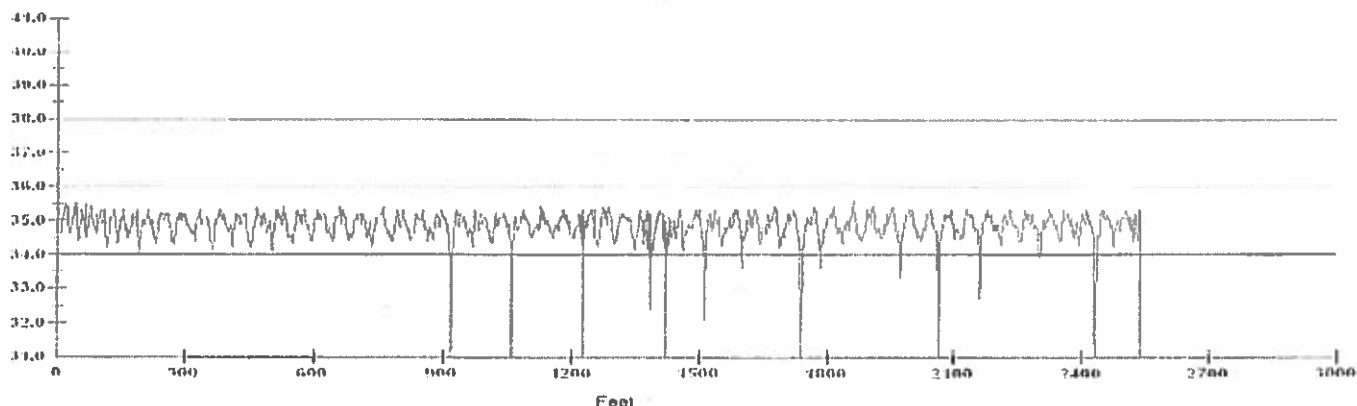
Upper Control Limit	0.0358 in	Upper Tolerance Limit	0.0380 in
X Double Bar	0.0349 in	P Bar	0.0009 in
Lower Control Limit	0.0339 in	Lower Tolerance Limit	0.0340 in
CR	46.5% (Capability Ratio %, 100/CP)		
CP	2.151 (Process Capability, HiLim-LoLim/6*Sigma)		
CPK	0.930 (Capability vs Limits)	PPW Ratio	0.975 (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	0.0%
+0.0005	0.0%
+0.0000	0.0%
-0.0005	0.1%
-0.0010	46.4%
-0.0015	44.7%
-0.0020	8.0%
-0.0025	0.0%
-0.0030	0.2%
-0.0035	0.0%
-0.0040	0.0%
-0.0045	0.0%
-0.0050	0.0%
---	0.0%

46.4% is within ± 0.0010 in of the target 99.7% 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 64876A)



Gauge readings provided by Advanced Gauging Technologies, L.L.C. Plain City, OH 45064 USA Tel:(611) 875 6691

Quality Checklist

Date: 8-27-2015 Customer: Quaker Work Order # 56795 Machine # 0122
 Master Tag # 041876A Tag Weight: 21,050 Type: CRC-Zn-F505 Ordered RB:

Gauge Tolerance				Length Tol:	Square Tol:	Flatness Tol:	Inspected By	Date
Skid Tag#	Edge	Crown	Edge	Length	Square	Flatness		
215672	035	036	035	86.5	062	4120		
Last piece of 1st bundle	035	036	035	86.5	062	4120		

Skid Tag#	Edge	Crown	Edge	Width	Length	Square	Flatness	Inspected By	Date
55310	035	036	035	13.106	86.5	062	4120		
55309	035	036	035	13.142	86.5	062	4120		
55208	035	036	035	13.113	86.5	062	4120		
55207	035	036	035	13.153	86.5	062	4120		

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