Subject: Cleveland Process Audit

Date: March 27, 2015

Completed By: Steve Busicnki

On March 27, 2015, work order CLV 55343 was ran on the CR2 for Corry. A total of four bundles of 16.5 X 38.5 were produced. Tag 214029 was verified prior to loading and use of the coil. When production began, one of the first finished sheets produced was measured for length, width, square, and flatness. The last piece of this first bundle was measured for gauge using a hand micrometer. The last piece of the third bundle was measured for length, width, square, flatness, and measured for gauge using a hand micrometer. The measurements were recorded on the Quality Checklist.

Tag 214028 was then verified prior to loading and use of the second coil. The first piece of the fourth bundle was measured for length, width, square, flatness and gauge was measured using a hand micrometer. The last piece of the fourth bundle was measured for length, width, square, flatness, and gauge was measured with a hand micrometer. These same measurements were taken on one of the first pieces of the last bundle and on the last piece of the last bundle. All of the measurements were recorded on the Quality Checklist.

Thickness readings were taken from the gauger as well. Based on the gauge report, 100.0% of the material was within specification with an average thickness of 0.1006 for the first coil and 0.1009 for the second coil. These averages are within the customer's specification of 0.0970" – 0.1096".

Part Spec/PO Audit Form

Cust #	5200	Customer	Corry			Grp/Sz/Grd/Wdth	CRS / 0.1046 / CSB / 16.5000		
Equip/Plant	CR2	Work Order #	CLV 55343	Date	3/27/2015	Part No.	12-16.5X38.5CR		
Work Order Information		Material to be Used				Actual			
		Tag #1	214029	Tag #2	214028	Gauge #1	All)/.100 (All)/.100,.10	Gauge #2	l)/.100 (All)/.100 (All)/.101 (All)
		PO#	CLV 020870-001	PO#	CLV 020870-001	% Gauge In Spec	100.00%	% Gauge In Spec	100.00%
Gauge Range	0.0970 - 0.1096	Gauge Min	0.0986	Gauge Min	0.0986	Low/High Gauge	0.0970 / 0.1022	Low/High Gauge	0.0973 / 0.1023
Width Range	16.5000 - 16.6250	Width	38.5000	Width	16.5000"	Average	0.1006	Average	0.1009
Length Range	38.5000 - 18.6250					Width	16.50,16.50,16.50	Width	16.50,16.50,16.50,16.50
Rockwell		Rockwell		Rockwell		Length	38.50,38.50,38.50	Length	.50,38.531,38.531,38.531
Tensile						Rockwell		Rockwell	
Yield		A1008 Cold Rolled		A1008 Cold Rolled					
% Elongation		Coil CS-Type B		Coil CS-Type B					
Chem Rqmts		.0986 Min X		.0986 Min X					
Other Rqmts		38.5000"		16.5000"					
Wave	0.00 - .18					Other			
Bow	0.00 - .18								
Flatness	0.00 - .18								
Summary									
Actions									
Final Status									

Quality Checklist

Date: 3-27-2015 Customer: Corsi Work Order # 55343 Machine # 0/1Z

Master Tag # 214020 026 Tag Weight: 7054 3036 Type: CRC-12L-CSB Ordered RB:

Skid Tag#	Gauge Tolerance .097-.1036 Edge	Crown	Edge	Width Tol: ±.125 16.5/38.5 Width	Length Tol: ±.125 38.5/16.5 Length	Square Tol: N/A Square	Flatness Tol: .188 Flatness	Inspected By	Date
30999	.100	.100	.100	38.50	16.50	.003	< .120	[signature]	3-27
Last piece of 1st bundle	.100	.100	.100	38.50	16.50	.003	< .120	[signature]	3-27

Skid Tag#	Edge	Crown	Edge	Width	Length	Square	Flatness	Inspected By	Date
31871	.100	.101	.101	38.50	16.50	.062	< .120	[signature]	3-27
	.100	.100	.100	16.50	38.50	.120	< .120	[signature]	3-27
	.100	.100	.100	16.52	38.531	.031	< .12	[signature]	
	.1								

30998

Skid Tag#	Edge	Crown	Edge	Width	Length	Square	Flatness	Inspected By	Date
31915	.100	.100	.100	16.50	38.531	.031	< .12	[signature]	
Last piece of last bundle	.101	.101	.101	16.50	38.531	.031	< .120	[signature]	

AGT400 Coil Summary Report

Jemison Metals -- 75 Inch Red Bud CTL Line

Work Order: 55343 Coil Number: 21409

Customer Name: CORRY Heat Number: MTC4163725 Vendor: MITTAL

Product: Cold-Rolled Steel Mar-27-15 9:45 AM to 10:15 AM (clock 30.0 min/ run 11.3 min) Shift: 1

Average Thickness and Tolerance Data

Target	0.1083 in	Average*	0.1006 in	Average - Target	-0.0027 in (-2.60%)
				Standard Deviation*	0.0005 in (0.49%)
Length	503 ft			Above High Limit	0.1086 in	0 ft (0.0%)
Width	38.500 in			In Tolerance		503 ft (100.0%)
Weight	6638 lbs			Below Low Limit	0.0970 in	1 ft (0.0%)

Max Thickness 0.1022 in at 474 ft Min Thickness 0.0970 in at 379 ft

Head Scrap 6 ft Tail Scrap 0 ft

Statistical Process Control Data

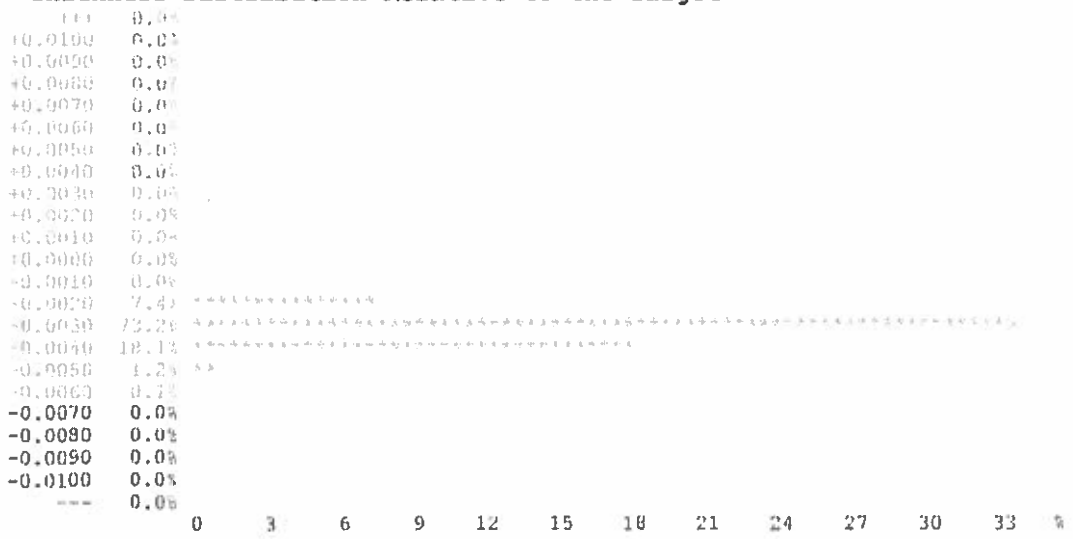
Upper Control Limit	0.1021 in	Upper Tolerance Limit	0.1086 in
X Double Bar	0.1006 in	R Bar	0.0015 in
Lower Control Limit	0.0991 in	Lower Tolerance Limit	0.0970 in

CR 24.3% (Capability Ratio %, 100/CP)

CP 4.118 (Process Capability, HiLim-LoLim/6*Sigma)

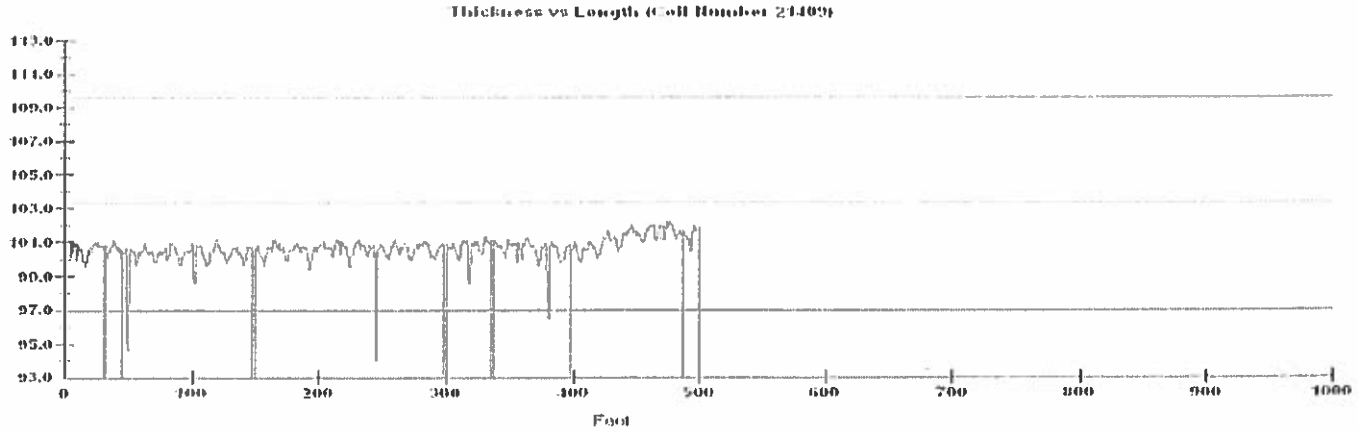
CPK 2.360 (Capability vs Limits) TMW Ratio 0.964(Low Limit/Avg)

Thickness Distribution Relative to the Target



7.4% is within ± 0.0020 in of the target 99.9% is within ± 0.0050 in of the target

100.0% is within ± 0.0100 in of the target 100.0% is within ± 0.0200 in of the target



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

AGT400 Coil Summary Report

Jemison Metals -- 75 Inch Red Bud CTL Line

Work Order: 55343 Coil Number: 214028

Customer Name: CORRY Heat Number: MTC4163725 Vendor: MITTAL

Product: Cold-Rolled Steel Mar-27-15 10:23 AM to 10:42 AM (clock 18.4 min/ run 6.6 min) Shift: 1

Average Thickness and Tolerance Data

Target	0.1033 in	Average*	0.1009 in	Average - Target	-0.0024 in (-2.29%)
				Standard Deviation*	0.0006 in (0.55%)
Length	482 ft			Above High Limit	0.1096 in	0 ft (0.0%)
Width	16.500 in			In Tolerance		482 ft (100.0%)
Weight	2734 lbs			Below Low Limit	0.0970 in	0 ft (0.0%)

Max Thickness 0.1023 in at 442 ft Min Thickness 0.0973 in at 183 ft

Head Scrap 0 ft Tail Scrap 0 ft

Statistical Process Control Data

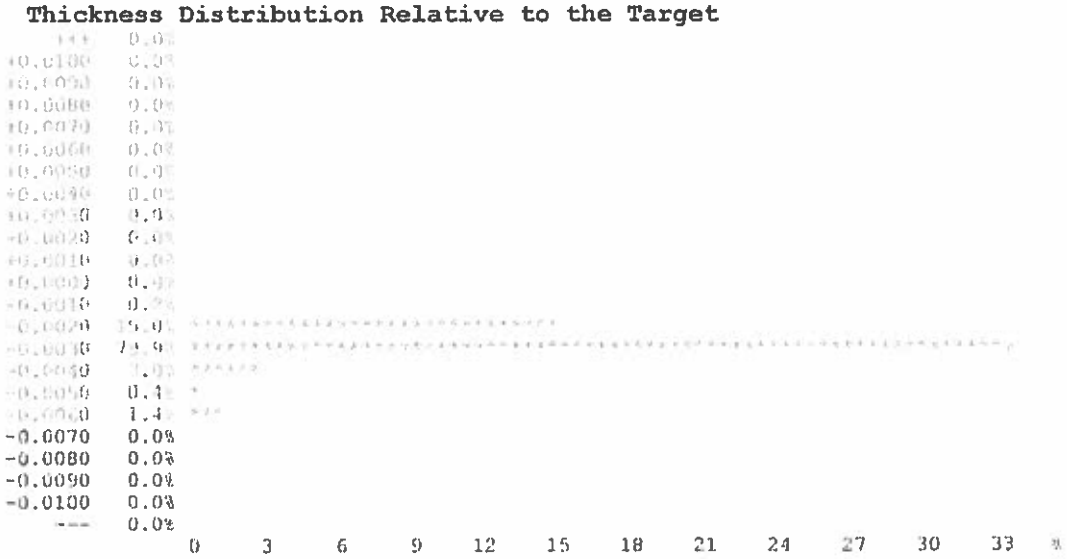
Upper Control Limit	0.1026 in	Upper Tolerance Limit	0.1096 in
X Double Bar	0.1009 in	R Bar	0.0017 in
Lower Control Limit	0.0992 in	Lower Tolerance Limit	0.0970 in

CR 27.1% (Capability Ratio %, 100/CP)

CP 3.684 (Process Capability, HiLim-LoLim/6*Sigma)

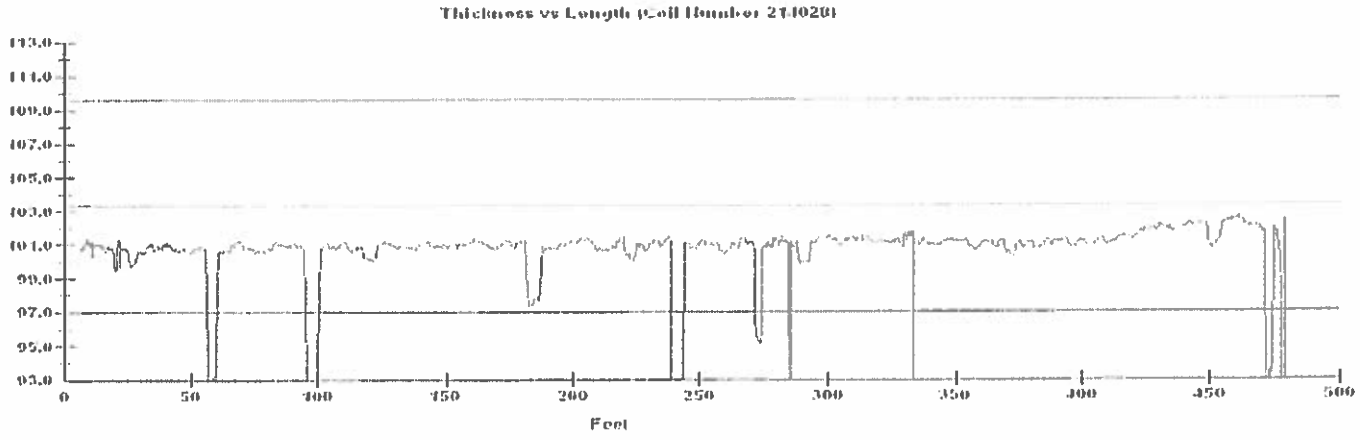
CPK 2.298 (Capability vs Limits) TMW Ratio 0.961(Low Limit/Avg)

Thickness Distribution Relative to the Target



15.2% is within ± 0.0020 in of the target 98.6% is within ± 0.0050 in of the target

100.0% is within ± 0.0100 in of the target 100.0% is within ± 0.0200 in of the target



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