

LOUISIANA STEEL, INC.
QUALITY ASSURANCE MANUAL

Q.A. MANUAL CONTROL NUMBER _____

DATE ISSUED _____

5/1/2019
APPROVED JA

5/1/2019

APPROVED JA

ORGANIZATION

INTRODUCTION


THE QUALITY CONTROL PROGRAM OF LOUISIANA STEEL, INC. IS DESIGNED TO ASSURE THAT ONLY QUALITY MATERIALS ARE SUPPLIED TO OUR CUSTOMERS. THE SYSTEM WILL CONFIRM CONFORMANCE TO AND VERIFICATION OF ALL QUALITY REQUIREMENTS FROM ORDER ENTRY TO OUT CUSTOMER'S RECEIPT OF MATERIAL.

THE MANAGER OF QUALITY ASSURANCE IS DELEGATED THE OVERALL RESPONSIBILITY AND AUTHORITY FOR THE EXECUTION AND CONFORMANCE OF THE QUALITY CONTROL PROGRAM.

THE QUALITY CONTROL MANAGER IS RESPONSIBLE FOR THE OPERATIONS QUALITY CONTROL PROGRAM. HE WILL ASSURE ALL REQUIRED INSPECTION AND TESTING ARE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THIS MANUAL AND TO THE CUSTOMER'S REQUIREMENTS.

THE QUALITY CONTROL MANAGER REPORTS TO THE MANAGER OF QUALITY ASSURANCE AND WORKS AS A LIASON WITH SALES, PURCHASING, AND THE OPERATIONS PERSONNEL TO ASSURE ALL CUSTOMER REQUIREMENTS ARE MET.

THE QUALITY CONTROL MANAGER HAS THE FREEDOM IN THE ORGANIZATION TO IDENTIFY PROBLEMS, INITIATE RECOMMEND ACTIONS, AND PROVIDE SOLUTIONS TO ANY SUCH PROBLEMS.



MANAGER OF QUALITY ASSURANCE
DATE 5-1-2019

5/1/2019

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ORGANIZATION

JOB DESCRIPTION

PRESIDENT – THE CHIEF EXECUTIVE OFFICER OF THE COMPANY AND WILL ESTABLISH ALL COMPANY POLICIES AND DIRECT THE COMPANIES ACTIVITIES

SALES MANAGER – RESPONSIBLE FOR THE PROCUREMENT OF MATERIALS AND ALL OF THE SALES ACTIVITIES OF THE COMPANY

MANAGER OF QUALITY ASSURANCE – HAS THE OVERALL RESPONSIBILITY ESTABLISHING, DIRECTING, AND OPERATION OF THE LOUISIANA STEEL QUALITY CONTROL PROGRAM

QUALITY CONTROL MANAGER – RESPONSIBLE FOR IMPLEMENTNG ALL QUALITY CONTROL MANUAL AND CUSTOMER REQUIREMENTS.

OPERATIONS MANAGER – RESPONSIBLE FOR THE HANDLING, STORAGE, SHIPPING, AND PRESERVATION OF MATERIALS AND ALL OTHER OPERATIONS INVOLVED WITH WAREHOUSE MANUFACTURING AND DISTRIBUTION.

GENERAL FOREMAN – RESPONSIBLE FOR THE EXECUTION OF ALL YARD, WAREHOUSE, AND MANUFACTURING OPERATIONS

5/1/2019
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ORGANIZATION

DEFINITIONS

DELAGATION OF AUTHORITY – ANY MANAGER ASSIGNED A SPECIFIC RESPONSIBILITY BY THIS MANUAL, MAY DELEGATE A RESPONSIBLE INDIVIDUAL WITHIN HIS DEPARTMENT THE TASK. HOWEVER, THE RESPONSIBILITY FOR THE DEPARTMENT BELONGS TO THE MANAGER

FORMS – REFERS TO THE FORMS THAT ARE ASSIGNED TO CONTROL OPERATIONS AND ASSURE QUALITY. ALL FORMS WILL HAVE AN ASSIGNED FORM NUMBER

MATERIALS – REFERS TO THE PIPE, TUBING, ETC., PURCHASED TO A SPECIFICATION OR ANY MATERIALS REQUIRED BY A CUSTOMER.

VENDOR – MATERIAL MANUFACTURER, SUPPLIER OR SUBCONTRACTOR WHO WILL SUPPLY MATERIALS OR SERVICES IN ACCORDANCETO OUR PURCHASE ORDER.

CUSTOMER – REFERS TO A COMPANY OR INDIVIDUAL WHO HAS ISSUED A PURCHASE ORDER TO LOUISIANA STEEL, INC. FOR MATERIALS OR SERVICES.

MATERIAL TEST REPORT – REFERS TO A REPORT CERTIFYING TEST RESULTS PER ASTM A370 SHOWING CHEMICAL AND MECHANICAL PROPERTIES.

SUBCONTRACTOR – COMPANIES THAT PERFORM SERVICES IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS.

SIGNATURE – ANY DOCUMENT THAT REQUIRES A SIGN OFF MAY BE DONE BY SIGNATURE / INITIALS AND DATED.

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ORGANIZATION

DEFINITIONS

REPAIR – THE PROCESS OF RESTORING A MANUFACTURING DEFECT TO AN ACCEPTABLE CONDITION

REWORK – THE PROCESS OF WHICH A NONCONFORMING ITEM IS MADE TO CONFORM TO SPECIFIED REQUIREMENTS

SALES ORDER – DOCUMENT THAT IS GENERATED BY SALES FOR IDENTIFICATION OF MATERIAL AND ORDER PROCESSING.

ORDER WORK UP – DOCUMENT THAT IS GENERATED BY SALES INSTRUCTING THE OPERATIONS DEPARTMENT OF THE CUSTOMER'S SPECIFIC REQUIREMENTS. THIS FORM FOLLOWS THE MATERIAL THROUGH PROCESSING.

ORDER OF PROCESS – THIS DOCUMENT IS GENERATED BY OPERATIONS AS THE RAW MATERIALS ARE RECEIVED AND FOLLOWS THE MANUFACTURING OR PROCESSING OF A CUSTOMER'S ORDER TO THE FINAL STAGE OF LOADING ONTO A TRUCK FOR SHIPMENT

FINAL INSPECTION REPORT – NOTES CONFORMANCE / NONCONFORMANCE TO CUSTOMER'S REQUIREMENT.

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ORGANIZATION

QUALITY CONTROL MANUAL CONTROL

THE MANAGER OF QUALITY ASSURANCE IS ASSIGNED THE OVERALL RESPONSIBILITY FOR THE DISTRIBUTION, CONTROL AND REVISION OF THE QUALITY CONTROL MANUAL. ALL REVISIONS TO THIS MANUAL MUST BE APPROVED BY THE PRESIDENT.

AN ACKNOWLEDGEMENT LETTER, FORM QA-I, MUST BE COMPLETED FOR CONTROLLED AND UNCONTROLLED MANUALS. ALL REVISIONS WILL BE IDENTIFIED BY THE REVISION CHECK LIST, FORM QA-II, AND IT WILL BE SENT WITH THE REVISED PAGES WHEN REVISION OF THIS MANUAL IS NECESSARY. ALL HOLDERS OF CONTROLLED MANUALS WILL RECEIVE THE APPROVED REVISED PAGES AND THEY ARE RESPONSIBLE FOR THE DESTRUCTION OF ALL OBSOLETE PAGES. EACH MANUAL HOLDER SHALL FILL OUT A REVISION AKNOWLEDGMENT LETTER, QA-III AND RETURN IT TO THE MANAGER OF QUALITY ASSURANCE. IF AN AKNOWLEDGMENT LETTER IS NOT RETURNED IN 30 DAYS, THE MANUAL WILL BE CHANGED TO UNCONTROLLED AND FUTURE REVISIONS WILL NOT BE SENT. A RECORD OF ALL REVISIONS SENT TO MANUAL HOLDERS SHALL BE RECORDED ON THE REVISION CHECKLIST LOG, FORM QA-IV.

ALL CONTROLLED AND UNCONTROLLED MANUALS WILL HAVE A SERIAL NUMBER ASSIGNED TO ASSURE THE MAINTENANCE OF PROPER RECORDS. THE MANAGER OF QUALITY ASSURANCE SHALL MAINTAIN A LOG FOR EACH TYPE OF MANUAL, FORM QA-V FOR CONTROLLED MANUALS AND QA-VI FOR UNCONTROLLED MANUALS.

5/1/2019

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ORDER ENTRY AND DOCUMENT CONTROL

2.1 PURPOSE

- A. THIS PROCEDURE WILL ESTABLISH THE CONTROL OF CUSTOMER PURCHASE ORDERS, SPECIFICATIONS AND DRAWINGS.

2.1.1 ORDER ENTRY

- A. WHEN AN ORDER IS RECEIVED, IT WILL BE REVIEWED BY SALES ALONG WITH ALL CUSTOMER SPECIFICATIONS AND DRAWINGS.
- B. PURCHASE ORDERS ARE REQUIRED FOR ALL CUSTOMERS AND ANY ORDER REQUIRING PROCESSING.
- C. WHEN VERBAL ORDERS ARE RECEIVED, THEY WILL BE PROCESSED PER THE SALES ORDER REQUIREMENTS.
- D. INVOICING WILL FURTHER DOCUMENT THE MATERIALS ORDERED AND MATERIALS SUPPLIED
- E. ALL CUSTOMER PURCHASE ORDERS WILL BE REVIEWED AGAINST THE SALES ORDER.

2.1.2 SALES ORDER

- A. THE ORDER WILL BE ENTERED BY SALES AND INCLUDE:
 - MATERIAL SPECIFICATION AND GRADE
 - SIZE/ WALL THICKNESS
 - CUT LENGTHS (IF REQUIRED)
 - SPECIFIC PHYSICAL AND/OR CHEMICAL REQUIREMENTS
 - MATERIAL TEST REPORTS (IF REQUIRED)
 - ANY ADDITIONAL REQUIREMENTS
- B. THE SALES ORDER WILL BE REVIEWED AND APPROVED / DISSAPROVED BY THE SALES MANAGER
- C. THE SALES ORDER, PURCHASE ORDER, AND ALL PERTINENT DOCUMENTS SHALL BE KEPT ON FILE AT THE CORPORATE OFFICE.

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PROCUREMENT CONTROL

- 3.1 PURPOSE
 - A. THIS WILL ESTABLISH THE REQUIREMENTS FOR PREPARATIONS AND DISTRIBUTION OF PURCHASE ORDERS FOR MATERIALS AND REQUIRED SERVICES.
- 3.1.1 PURCHASE ORDER PREPARATION
 - A. ALL PURCHASING FUNCTIONS WILL BE PERFORMED BY MANAGEMENT USING FORM NUMBER PO-1.
 - B. ALL PURCHASE ORDERS FOR MATERIALS SHALL INCLUDE:
 - COMPLETE DESCRIPTION OF THE MATERIAL INCLUDING SPECIFICATION
 - REQUEST FOR MATERIAL TEST REPORTS (WHEN APPLICABLE)
 - DIMENSIONAL TOLERANCES (WHEN APPLICABLE)
 - SHIPPING INSTRUCTIONS (WHEN APPLICABLE)
 - PACKING INSTRUCTIONS (WHEN APPLICABLE)
 - C. ALL PURCHASE ORDERS FOR SERVICES SHALL SPECIFY THE SERVICES TO BE PERFORMED AND THE ACCEPTANCE STANDARD REQUIRED.
 - D. THE QUALITY CONTROL COPY OF THE PURCHASE ORDER FOR MATERIALS OR SERVICES WILL NOT BE ON FILE IN THE SALES ORDER FILE.
 - E. COPIES OF PURCHASE ORDERS WILL BE SENT TO OPERATIONS MANAGER FOR DISTRIBUTION TO RECEIVING CREW AS INVENTORY CONTROL AND TO OPERATIONS FOREMAN.
- 3.1.2 INSPECTION
 - A. RECEIVING INSPECTION AND DOCUMENTATION WILL BE IN ACCORDANCE WITH SECTION 501 OF THIS MANUAL.
 - B. ALL NONCONFORMANCE REPORTS GENERATED DUE TO MATERIAL PROBLEMS SHALL BE USED FOR VENDOR CONSIDERATION.

5/1/2019

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CONTROL OF PURCHASED MATERIALS AND SERVICES

4.1 PURPOSE

- A. THIS PROCEDURE WILL ESTABLISH THE REQUIREMENTS FOR THE CONTROL OF PURCHASED MATERIALS AND SERVICES.

4.1.1 RECEIVING INSPECTION

- A. WHEN MATERIAL IS RECEIVED IT WILL BE IDENTIFIED WITH A PURCHASE ORDER BY INVENTORY CONTROL.
- B. INVENTORY CONTROL WILL COMPLETE A RECEIVING REPORT COMPARING MATERIALS RECEIVED WITH THE PURCHASE ORDER REQUIREMENTS (QUANTITY, SPECIFICATION, QUALITY, ETC.) THIS WILL BE FORM NUMBER OPS-5
- C. THE FORM OPS-5 WILL BE FILED IN THE SALES ORDER FILE
- D. THE FORM OPS-5 WILL BE REVIEWED BY THE PURCHASER AND BY OPERATIONS TO VERIFY MATERIAL CONFORMS TO THE PURCHASE ORDER

4.1.2 SUBCONTRACTED SERVICES

- A. ALL SUBCONTRACTORS SHALL PERFORM SERVICES IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS FOR THE SERVICE PERFORMED.
- B. PURCHASE ORDERS WILL BE PREPARED AND DISTRIBUTED IN ACCORDANCE WITH REQUIREMENTS (SALES, OPERATIONS, ETC.)

4.1.3 CHEMICAL AND PHYSICAL TESTING

- A. ALL REQUIRED TESTING MUST BE PERFORMED IN ACCORDANCE WITH ASTM A370.

5/1/2019

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CONTROL OF PURCHASED MATERIALS AND SERVICES

- 4.1.3 CALIBRATION OF MEASURING EQUIPMENT
- A. THE SUBCONTRACTOR FOR THE CALIBRATION OF MEASURING EQUIPMENT SHALL HAVE THE FACILITIES AND NECESSARY EQUIPMENT TO PERFORM REQUIRED CALIBRATION TO MEASUREMENT STANDARDS, WHICH HAVE A KNOWN RELATIONSHIP TO NATIONAL STANDARDS, WHERE SUCH STANDARDS EXIST.
 - B. THE SUBCONTRACTOR SHALL CALIBRATE MEASURING EQUIPMENT ON A REGULAR BASIS AS REQUIRED IN SECTION 8 OF THIS MANUAL AND ISSUE DOCUMENTATION OF CERTIFICATION TO NATIONAL STANDARDS.
 - C. THE QUALITY CONTROL MANAGER WILL MAINTAIN COPIES OF THE EQUIPMENT CERTIFICATION ON FILE.

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CONTROL OF PURCHASED MATERIALS AND SERVICES

- 5.1 PURPOSE
 - A. THIS PROCEDURE WILL ESTABLISH THE REQUIREMENTS FOR THE CONTROL OF INSPECTIONS
- 5.1.1 RECEIVING INSPECTIONS
 - A. ALL RECEIVING INSPECTIONS WILL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 401 IN THIS MANUAL.
- 5.1.2 IN PROCESS INSPECTION
 - A. THE QUALITY CONTROL MANAGER WILL MONITOR OPERATIONS PROCESSES IN FILLING SALES ORDERS TO ENSURE THAT TRACABILITY AND PROPER IDENTIFICATION IS MAINTAINED.
- 5.1.3 FINAL INSPECTION
 - A. AN ORDER OF PROCESS (FORM OPS-1) WILL BE COMPLETED FOR ALL ORDERS PROCESSED, MATERIALS MANUFACTURED AND/OR PURCHASED.
 - B. THE FINAL INSPECTION REPORT (FORM OPS-2) WILL BE COMPLETED AND MADE PART OF THE SALES ORDER FILE.
 - C. THE QUALITY CONTROL MANAGER WILL REVIEW THE ORDER OF PROCESS AND FINAL INSPECTION REPORT TO VERIFY THE ORDER WAS PROCESSED TO THE REQUIREMENTS OF THE CUSTOMER AND THE QUALITY CONTROL MANUAL.

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HANDLING, STORAGE AND SHIPPING

- 6.1 PURPOSE
 - A. THIS WILL ESTABLISH THE REQUIREMENTS FOR HANDLING, STORAGE AND SHIPPING.
- 6.1.1 HANDLING
 - A. ALL MATERIALS SHALL BE HANDLED IN A MANNER THAT WILL PREVENT DAMAGE AND INSURE PROPER STORAGE.
 - B. A METAL CHAIN OR CHAIN SLING MAY BE USED WHEN MOVING CARBON STEEL.
 - C. A NON-METALIC (NYLON) SLING MUST BE USED WHEN MOVING OR HANDLING STAINLESS STEEL.
- 6.1.2 MARKING
 - A. MARKING WILL BE DONE BY A METHOD NOT INJURIOUS TO THE SURFACE PER ASTM AS REQUIRED BY THE CUSTOMER.
 - B. A PECIAL MARKER MAY BE REQUIRED BY THE CUSTOMER AND ITS USE WILL BE DESCRIBED BY THE ORDER WORK UP FORM (SLS-2)
 - C. THE USE OF TAGS FOR INFORMATIONAL PURPOSES ACCEPTABLE EXCEPT WHEN CUSTOMER REQUIREMENTS ARE NOTED ON THE ORDER WORK UP FORM (SLS-2)
- 6.1.3 STORAGE
 - A. ALL PRODUCTS WILL BE STORED IN AREAS THAT WILL PREVENT DAMAGE AND NOT ALLOW MIXING OR MISIDENTIFICATION.
- 6.1.4 SHIPPING
 - A. ALL MATERIALS WILL BE SHIPPED BY TRUCK OR RAIL CAR AND CARE WILL BE TAKEN TO ASSURE PROPER LOADING. ALL MATERIALS SHALL BE SECURED WITH CHAINS OR STRAPS.
 - B. THE QUALITY CONTROL MANAGER WILL APPROVE ALL SHIPMENTS.
 - C. ONE OR MORE PICTURES WILL BE TAKEN OF THE MATERIAL ON THE TRUCK OR IN THE RAIL CAR TO SHOW THE POSITION OF THE MATERIAL ON THE TRUCK OR IN THE RAIL CAR, SHOWING MATERIAL CONDITION AND THE PIECE COUNT OD THE MATERIALS (IF POSSIBLE)

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- D. CUSTOMER SHIPPING INSTRUCTIONS WILL BE FOLLOWED AS REQUIRED.
- 6.1.5 RESPONSIBILITY
- A. THE OPERATIONS MANAGER WILL BE RESPONSIBLE FOR ALL HANDLING, STORAGE, AND SHIPPING OF MATERIALS AND WILL REGULARLY MONITOR ALL HANDLING, STORAGE AND SHIPPING.

5/1/2019

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NONCONFORMANCE

- 7.1 PURPOSE
 - A. THIS WILL ESTABLISH THE REQUIREMENTS FOR THE CONTROL OF NONCONFORMING MATERIALS.
- 7.1.1 VENDOR SUPPLIED MATERIALS
 - A. DURING RECEIVING INSPECTION AND MATERIALS WHICH DO NOT MEET PURCHASE ORDER REQUIREMENTS WILL BE PLACED ON HOLD IN A NONCONFORMITY LOCATION.
 - B. ALL MATERIALS PLACED ON HOLD WILL BE IDENTIFIED AND SEGREGATED FROM ACCEPTABLE MATERIAL.
 - C. ALL MATERIALS PLACED ON HOLD WILL BE IDENTIFIED WITH A HOLD TAG (OPS-3) AND DOCUMENTED WITH A NONCONFORMANCE REPORT DETAILING THE REASON MATERIAL WAS REJECTED
- 7.1.2 IN PROCESS NONCONFORMITIES
 - A. ALL IN PROCESS NONCONFORMITIES OBSERVED DURING IN PROCESS OPERATIONS WILL BE PLACED ON HOLD, IDENTIFIED, (FORM OPS-3) AND DOCUMENTED (FORM OPS-4)
 - B. NO FURTHER WORK WILL BE PERFORMED ON MATERIALS UNTIL CORRECTED.
- 7.1.3 NONCONFORMANCE REPORTS
 - A. THE NONCONFORMANCE REPORT WILL BE REVIEWED BY THE MANAGER OF QUALITY CONTROL, DEPARTMENT HEAD, AND SALES PERSON. A COMPLETE EVALUATION WILL BE MADE TO DETERMINE THE CORRECTIVE ACTION.
 - B. THE RECOMMENDED CORRECTIVE ACTION WILL BE PRESENTED TO THE MANAGER OF QUALITY ASSURANCE FOR APPROVAL.
 - C. THE QUALITY CONTROL MANAGER WILL APPROVE THE DISPOSITION OF ALL NONCONFORMING ITEMS AND HAVE THE HOLD TAG (FORM OPS-3) REMOVED AND ALLOW THE ITEM TO BE COMPLETED
 - D. THE QUALITY CONTROL MANAGER WILL MAKE SURE THE HOLD TAG (FORM OPS-3) AND NONCONFORMANCE REPORT (FORM OPS-4) ARE FORWARDED TO THE SALES ORDER FILE.

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CALIBRATION AND CONTROL OF MEASURING EQUIPMENT

8.1 PURPOSE

- A. THIS WILL ESTABLISH THE REQUIREMENTS FOR THE CALIBRATION AND CONTROL OF GAUGES, INSTRUMENTS AND OTHER MEASURING EQUIPMENT USED IN ACTIVITIES EFFECTING QUALITY.

8.1.1 CALIBRATION

- A. ALL NEW MEASURING EQUIPMENT WILL BE CALIBRATED BEFORE BEING USED IN PRODUCTION OR INSPECTION OF MATERIALS.
- B. ALL MEASURING EQUIPMENT WILL BE CALIBRATED ON A MONTHLY BASIS.
- C. ALL MEASURING EQUIPMENT WILL BE CALIBRATED TO NATIONAL STANDARDS.
- D. ALL TESTING EQUIPMENT WILL BE CHECKED AND CALIBRATED ON A MONTHLY BASIS.
- E. ALL CERTIFICATIONS AND CALIBRATION RECORDS (QA-2) WILL BE MAINTAINED ON FILE BY THE QUALITY CONTROL MANAGER.

1.1.2 RECORDS

- A. ALL CALIBRATED TESTING AND MEASURING EQUIPMENT WILL BE TRACABLE TO THE CALIBRATION RECORD (FORM QA-2).
- B. THE CALIBRATION RECORD (FORM QA-2) WILL INCLUDE THE FOLLOWING:
 - 1. TYPE OF GAGE
 - 2. SERIAL NUMBER
 - 3. DATE OF CALIBRATION
 - 4. SIGNATURE OF PERSON PERFORMING CALIBRATION
 - 5. CALIBRATION DATA
- C. A CALIBRATION TAG WILL BE AFFIXED TO ALL CALIBRATED MEASURING AND TESTING EQUIPMENT OR IN ITS STORAGE CASES.

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8.1.3 CONTROL

- A. THE QUALITY CONTROL MANAGER SHALL BE RESPONSIBLE FOR THE CALIBRATION, CALIBRATION RECORDS, CONTROL, AND STORAGE OF ALL CALIBRATED MEASURING AND TESTING EQUIPMENT.
- B. ANY MATERIAL INSPECTED WITH DEFECTIVE MEASURING OR TESTING EQUIPMENT THAT WAS OUT OF CALIBRATION WILL BE REINSPECTED USING CALIBRATED EQUIPMENT.

8.1.4 STORAGE

- A. ALL MEASURING AND TESTING EQUIPMENT WILL BE STORED IN A MANNER WHICH WILL PREVENT DAMAGE AND DETERIORATION.

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QUALITY CONTROL RECORDS

- 9.1 PURPOSE
 - A. THIS WILL ESTABLISH THE REQUIREMENTS FOR THE CONTROL OF QUALITY CONTROL RECORDS
- 9.1.1 PURCHASED MATERIALS
 - A. MATERIAL TEST REPORTS WILL BE REQUIRED WHEN INDICATED ON THE PURCHASE ORDER.
 - B. ALL MATERIAL TEST REPORTS WILL BE FILED WITH THE CORRECT PURCHASE ORDER.
- 9.1.2 MANUFACTURED MATERIALS
 - A. ALL MATERIALS PRODUCED WILL HAVE A MATERIAL TEST REPORT ISSUED FOR THAT HEAT NUMBER.
 - B. ALL MATERIAL TEST REPORTS WILL BE REVIEWED BY THE QUALITY CONTROL MANAGER FOR ACCURACY AND FILED WITH THE ORDER OF PROCESS (FORM OPS-1). A COPY OF THE TEST REPORT WILL BE SENT TO THE MANAGER OF QUALITY ASSURANCE FOR REVIEW AND PLADED IN THE MATERIAL TEST REPORT FILE.
 - C. ANY MATERIAL SHIPPED REQUIRING A MATERIAL TEST REPORT WILL HAVE A HEAT NUMBER ON A MATERIAL TEST REPORT SHOWING THE CUSTOMER NAME AND PURCHASE ORDER NUMBER.

5/1/2019

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CORRECTIVE ACTION

10.1 PURPOSE

- A. THIS WILL ESTABLISH THE REQUIREMENTS FOR CORRECTIVE ACTION.

10.1.1 CORRECTIVE ACTION

- A. THE IDENTIFICATION OF A SIGNIFICANT CONDITION ADVERSE TO QUALITY, THE CAUSE OF THE CONDITION AND THE CORRECTIVE ACTION TAKEN, WILL BE DOCUMENTED AND REPORTED TO THE APPROPRIATE MANAGER ON A CORRECTIVE ACTION REPORT (QA-4) BY THE QUALITY CONTROL MANAGER
- B. THE QUALITY CONTROL MANAGER WILL FOLLOW UP ON ALL CORRECTIVE ACTION REPORTS WITHIN 24 HOURS AFTER ISSUE. IF PROPER CORRECTIVE ACTION HAS NOT BE SUCESSFULLY COMPLETED THE QUALITY CONTROL MANAGER WILL NOTIFY THE DEPARTMENT MANAGER TO COMPLETE THE REQUIRED CORRECTIVE ACTION.
- C. THE QUALITY CONTROL MANAGER WILL REGULARLY REVIEW THE NONCONFORMANCE REPORTS AND CORRECTIVE ACTION REPORTS TO DETERMINE IF THE PROPER ACTIONS WERE TAKEN OR FURTHER ACTIONS NEED TO BE TAKEN.

5/1/2019

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AUDITS

11.1 PURPOSE

- A. THIS WILL ESTABLISH THE REQUIREMENTS FOR INTERNAL AUDITS.

11.1.1 INTERNAL AUDITS

- A. THE QUALITY CONTROL MANAGER WILL BE RESPONSIBLE FOR ALL INTERNAL AUDITS PERFORMED. AN AUDIT CHECKLIST WILL BE DEVELOPED BY THE QUALITY CONTROL MANAGER FROM THE QUALITY CONTROL MANUAL AND THE CHECKLIST WILL ASSURE ALL REQUIREMENTS OF THE QUALITY CONTROL PROGRAM ARE MET.

11.1.2 MANAGEMENT INTERNAL AUDITS

- A. AUDITS PERFORMED IN THE QUALITY CONTROL PROGRAM WILL BE PERFORMED BY PERSONNEL NOT HAVING DIRECT RESPONSIBILITY IN THE QUALITY CONTROL DEPARTMENT. THESE PERSONS WILL BE APPOINTED BY THE COMPANY PRESIDENT.

11.1.3 AUDIT FINDINGS AND CORRECTIVE ACTION

- A. ALL AUDIT FINDINGS WILL BE DISCUSSED WITH ALL DEPARTMENT MANAGERS.
- B. THE AUDIT CHECKLIST FROM THE QUALITY CONTROL MANAGER WILL BE USED BY THE AUDITORS TO RECORD FINDINGS
- C. AUDIT FINDINGS NEEDING CORRECTION WILL BE DOCUMENTED ON A CORRECTIVE ACTION REPORT. FOLLOW UP OF REQUIRED CORRECTIVE ACTION WILL BE PERFORMED WITHIN 24 HOURS.
- D. THE QUALITY CONTROL MANAGER WILL DOCUMENT ALL AUDIT FINDINGS AND REPORT THEM TO THE MANAGER OF QUALITY ASSURANCE.
- E. ALL AUDITS WILL BE PERFORMED ON A CONTINUING BASIS WEEKLY.

SECTION INDEX

5/1/2019

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QA-III	REVISION ACKNOWLEDGEMENT LETTER	0	5/1/2019
QA-IV	REVISION CHECK LIST	0	5/1/2019
QA-V	DISTRIBUTION RECORD/ CONTROLLED MANUAL	0	5/1/2019
QA-VI	DISTRIBUTION RECORD/ UNCONTROLLED MANUAL	0	5/1/2019
SLS-1	SALES ORDER	0	5/1/2019
SLS-2	ORDER WORKUP	0	5/1/2019
PO-1	PURCHASE ORDER	0	5/1/2019
OPS-1	ORDER OF PROCESS	0	5/1/2019
OPS-1A	ORDER OF PROCESS FORM	0	5/1/2019
OPS-1B	ORDER COPY	0	5/1/2019
OPS-2A	SAW FINAL INSPECTION REPORT	0	5/1/2019
OPS-2B	IN PROCESS QA	0	5/1/2019
OPS-2C	QUALITY ASSURANCE CHECKLIST	0	5/1/2019
OPS-3	HOLD TAG	0	5/1/2019
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OPS-5	RECEIVING REPORT	0	5/1/2019
OPS-6A	SQUARE AND RECTANGLE BENCH REPORT	0	5/1/2019
OPS-6B	ROUND BENCH REPORT	0	5/1/2019
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QA-I

5/1/2019

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ACKNOWLEDGEMENT LETTER
-MANUAL ISSUE

TO: DIRECTOR OF QUALITY ASSURANCE
LOUISIANA STEEL, INC.
211 STEEL STREET
COTTLEVILLE, MO 63376

THE QUALITY CONTROL MANUAL FOWARDED TO ME BY LETTER DATED _____
HAS BEEN RECEIVED. I UNDERSTAND THAT I WILL BE RESPONSIBLE FOR THE PROPER
MAINTENANCE OF THIS MANUAL.

MANUAL NUMBER _____
DATE _____
NAME _____
COMPANY _____
ADDRESS _____
CITY, STATE, ZIP _____

QA-II

5/1/2019

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QUALITY CONTROL MANUAL REVISION CHECKLIST

PAGE REVISIONS

DATE

REVISION NUMBER

QA-III

5/1/2019

APPROVED JA

ACKNOWLEDGEMENT LETTER
-MANUAL REVISION

TO: DIRECTOR OF QUALITY ASSURANCE
LOUISIANA STEEL, INC.
211 STEEL STREET
COTTLEVILLE, MO 63376

THE REVISION OF THE QUALITY CONTROL MANUAL FOWARDED TO ME BY LETTER DATED _____ HAVE BEEN INSERTED INTO THE MANUAL I HAVE IN MY POSSESSION. ALL PRIOR COPIES OF THESE PAGES HAVE BEEN DESTROYED. I UNDERSTAND THAT MY MANUAL WILL BE CHANGED TO UNCONTROLLED IF THIS IS NOT DONE IN THRITY (30) DAYS.

MANUAL NUMBER _____
DATE _____
NAME _____
COMPANY _____
ADDRESS _____
CITY, STATE, ZIP _____

QA-IV

5/1/2019

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REVISION CHECKLIST

MANUAL NUMBER	ASSIGNED TO	RECEIVED	REVISION NUMBER	DATE REVISION SENT
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QA-V

5/1/2019

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DISTRIBUTION RECORD OF CONTROLLED MANUALS

MANUAL NUMBER	ASSIGNED TO	RECEIVED	COMPANY	DATE ASSIGNED
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QA-VI

5/1/2019

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DISTRIBUTION RECORD OF UNCONTROLLED MANUALS

MANUAL NUMBER	ASSIGNED TO	COMPANY	DATE ASSIGNED
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LOUISIANA STEEL ORDER ENTRY

320 SOUTH 30TH ST.
LOUISIANA, MO 63353

SLS-1

5/1/2019

APPROVED JA

ORDER

DATE	ORDER #

BILL TO

SHIP TO

P.O. NO.	TERMS	DUE DATE	REP	SHIP VIA	FOB	FRT RATE
ITEM	DESCRIPTION	QTY	PRICE	WPF	TOT. WT	AMOUNT
					Total	

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CUSTOMER:		PO #	
ORDER #		DUE DATE:	
SIZE		SPEC	

OD	MIN		ID	MIN		MIN
	MAX			MAX		MAX

TELESCOPE:

YIELD	MIN		TENSILE	MIN		BHN
	MAX			MAX		EL%

SURFACE	
----------------	--

STENCIL	
----------------	--

TAG	
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LENGTH:		HOLLOW	
CUT TOLERANCE:		MTR	

SPECIAL INSTRUCTIONS / NOTES

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5/1/2019

APPROVED JA

ORDER PROCESS FORM – OPERATIONS

SCOPE: TO TRACK THE FLOW OF ORDERS THOUGH THE VARIOUS STAGES OF MANUFACTURE.

DATE: DATE ORDER IS ENTERED INTO THE SYSTEM.

CUSTOMER: CUSTOMER NAME ON PRDER.

BEGINNING SIZE: SIZE THAT IS RECEIVED TO BE DRAWN.

FOOTAGE ORDERED: TOTAL NUMBER OF FEET ORDERED TO PRODUCE FINISHED SIZE

FOOTAGE REQUIRED: TOTAL NUMBER OF FEET RECEIVED FOR THE ORDER

PIECES ORDERED: TOTAL NUMBER OF PIECES ORDERED FOR THIS ORDER

PIECES RECEIVED: TOTAL NUMBER OF PIECES RECEIVED FOR THIS ORDER.

LENGTH ORDERED: LENGTH RANGE OR EXACT LENGTH ORDERED TO MANUFACTURE THIS ORDER.

LENGTH RECEIVED: ACTUAL LENGTH RANGE OR EXACT LENGTH RECEIVED FOR THIS ORDER.

FINISHED SIZE: SIZE EXPRESSED IN OD INCHES (4.000" X 4.000" X .250") AND WALL INCHES OF FINISHED SIZE.

FINISHED LENGTH: LENGTH OR LENGTH RANGE OF PIECES AFTER LAST DRAW.

PURCHASE ORDER: LOUISIANA STEEL PURCHASE ORDER NUMBER FOR HOLLOWS THAT ARE STARTED WITH.

CUSTOMER ORDER: PURCHASE ORDER NUMBER OF CUSTOMER FOR THIS ORDER

DATE RECEIVED: DATE THAT HOLLOWS (START SIZE) ARE RECEIVED.

DUE DATE: TARGET DATE FOR ORDER COMPLETION.

HARDNESS: REQUIRED HARDNESS FOR FINISHED SIZE.

HEAT NUMBER: NUMBER ASSIGNED TO SIZE AT TIME OF RECIEPT OF START SIZE FOR TRACKING AND TRACABILITY PURPOSES

5/1/2019

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ORDER OF PROCESS: VARIOUS PROCESSES AND DATES THAT ORDERS PROCEED THROUGH SYSTEM. INCLUDES HEAT TREAT TEMPERATURES, DRAW DOWNS AND SQUARING PROCEDURES.

LOUISIANA STEEL ORDER ENTRY

320 SOUTH 30TH ST.
LOUISIANA, MO 63353

ORDER

DATE	ORDER #

BILL TO

SHIP TO
OPS-1B
5/1/2019
APPROVED <u>JA</u>

P.O. NO.	TERMS	DUE DATE	REP	SHIP VIA	FOB	FRT RATE
ITEM	DESCRIPTION	QTY	PRICE	WPF	TOT. WT	AMOUNT
					Total	\$0.00

SAW FINAL INSPECTION REPORT

CUSTOMER _____

ORDER _____

SIZE _____

O.D. RANGE _____

WALL SIZE _____

VISUAL INSPECTION OK? YES NO
COMMENTS _____

TELESCOPING APPLICATION YES NO
IF TELESCOPING WHAT IS THE DRIFT? _____

COMMENTS _____

INSPECTED BY _____

DATE _____

SUPERVISOR _____

LOUISIANA STEEL IN PROCESS QA

OPERATOR:

CUSTOMER:

SIZE:

PC #

OD READINGS

CONCAVITY

APPROVED BY: _____

LOUISIANA STEEL, INC. QUALITY ASSURANCE CHECKLIST

OPS-2C

5/1/2019

APPROVED

JA

ORDER NO.

PO NO.

DATE

CUSTOMER

QTY SIZES

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

STENCIL

TAG

TEST REPORTS COMPLETED FOR :

YES:

NO:

N/A:

FINAL INSPECTION:

SIZE	PC COUNT
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____
6. _____	6. _____

SURFACE CONDITION

INSPECTOR COMMENTS

5/1/2019

HOLD

TAG

APPROVED

JA

DO NOT USE UNTIL RELEASED BY THE QUALITY CONTROL MANAGER

NONCONFORMANCE REPORT NO. _____

NONCONFORMANCE: _____

Q.C. SIGNATURE _____ DATE _____

HOLD

TAG

DO NOT USE UNTIL RELEASED BY THE QUALITY CONTROL MANAGER

NONCONFORMANCE REPORT NO. _____

NONCONFORMANCE: _____

Q.C. SIGNATURE _____ DATE _____

NONCONFORMANCE REPORT

REPORT NO. _____

PURCHASE ORDER NO. _____

CUSTOMER _____

MATERIAL DESCRIPTION _____

SIZE & WALL _____ QUANTITY _____

SPECIFICATION _____ HEAT CODE _____

VENDOR _____

DESCRIPTION OF NONCONFORMANCE:

Q.C. SIGNATURE _____ DATE _____

RECOMMENDED DISPOSITION:

Q.C. SIGNATURE _____ DATE _____

DISPOSITION:

DISPOSITION: Approved _____ Additional Action Required _____

Q.C. MANAGER _____ DATE _____

LOUISIANA STEEL, INC.

RECEIVING REPORT

DATE: _____

P.O.# _____

VENDOR: _____

OD	OD	WALL	FEET	INCHES	HEAT #	CONDITION	E/S	LOCATION	COMMENTS
----	----	------	------	--------	--------	-----------	-----	----------	----------

TOTAL

OD	OD	WALL	FEET	INCHES	HEAT #	CONDITION	E/S	LOCATION	COMMENTS
----	----	------	------	--------	--------	-----------	-----	----------	----------

TOTAL

OD	OD	WALL	FEET	INCHES	HEAT #	CONDITION	E/S	LOCATION	COMMENTS
----	----	------	------	--------	--------	-----------	-----	----------	----------

TOTAL

OD	OD	WALL	FEET	INCHES	HEAT #	CONDITION	E/S	LOCATION	COMMENTS
----	----	------	------	--------	--------	-----------	-----	----------	----------

TOTAL

SQUARE & REC

PC COUNT

OPERATOR

TOTAL LAYS

CUSTOMER

ORDER #

SIZE

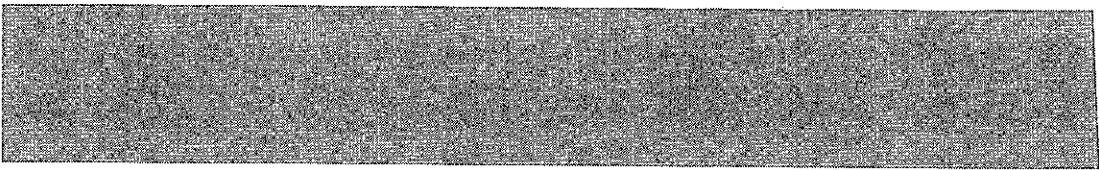
DIES USED

TURKS HEAD

FINISHING ROLLS

BREAKING ROLLS

MIC READINGS AND CORNERS



ROUND	PC COUNT <input type="text"/>
<input type="text"/>	<input type="text"/>
OPERATOR	HOLLOWAYS

CUSTOMER	ORDER #
<input type="text"/>	<input type="text"/>

<input type="text"/>

DIES USED

<input type="text"/>

MIC READINGS AND CORNERS

ELLIPTICAL

PC COUNT

OPERATOR

HOLD DAVEN

CUSTOMER

ORDER #

DIES USED

TURKS HEAD

FINISHING ROLLS

BREAKING ROLLS

MIC READINGS AND CORNERS

QA-1

5/1/2019

PAGE 1 OF 3

APPROVED JA

LOUISIANA STEEL, INC.
COTTLEVILLE, MO 63376

FINAL INSPECTION PROCEDURE
Q.A. CHECKLIST

PREPARED BY _____ DATE _____

REVIEWED AND APPROVED BY _____ DATE _____

MANAGER OF QUALITY ASSURANCE

FINAL INSPECTION PROCEDURE

Q.A. CHECKLIST

1. REVIEW THE MILL ORDER AND ACKNOWLEDGEMENT FOR ALL IMPORTANT ORDER PARTICULARS SUCH AS SIZE, TYPE, SPECIFICATIONS, ETC. CHECK OPERATION SIGN OFF AND PIECE COUNT AND BRING DISCREPANCIES TO THE ATTENTION OF RESPONSIBLE SUPERVISOR. DO NOT MOVE A BUNDLE UNTIL THE PIECES HAVE BEEN COUNTED AND AGREE WITH THE BUNDLE TICKET.
2. DETERMINE THE REQUIRED DIMENSIONAL TOLERANCES.
3. VISUAL EXAMINATIONS – MAKE A GENERAL INSPECTION OF THE O.D. BASE METAL AND WELD SEAM. MARK UNACCEPTABLE CONDITIONS. ANY BASE METAL AREAS REQUIRING RERPAIR WELDING MUST BE BROUGHT TO THE ATTENTION OF THE QUALITY CONTROL MANAGER FOR RESOLUTION. ANY ORDER THAT DOES NOT ALLOW REPAIR BY WELDING WILL BE NOTED ON THAT ORDER AND ON THE SALES ORDER WORKUP FORM.
4. DIMENSIONAL INSPECTION – CHECK THE O.D., WALL, OVALITY AND LENGTH FOR CONFORMANCE TO THE MILL ORDER AND SPECIFICATION. RECORD FINDINGS ON AN INSPECTION TALLY. CHECK THE STRAIGHTNESS AND SQUARENESS OF CUT AND ANY OTHER DIMENSIONAL REQUIREMENTS WHEN SPECIFIED, AND IF A PROBLEM IS OBVIOUS, RECORD FINDS. REFER TO THE APPROPRIATE Q.A. STANDARDS FOR ACCEPTANCE WHEN NOT SPECIFIED ON THE MILL ORDER.
5. OTHER TESTS OR INSPECTIONS, WHEN SPECIFIED – ADDITIONAL INSPECTION AND TESTING MAY BE REQUIRED IN WHICH THE SPECIAL INSTRUCTIONS WILL BE ON THE MILL ORDER OR ATTACHMENTS TO THESE CHECKLISTS.
6. MARKING AND REPORTING:
 - A) STENCIL ALL TUBES IN ACCORDANCE WITH INFORMATION ON THE ACKNOWLEDGEMENT AND SPECIFICATIONS. ANY ORDER THAT REQUIRES SPECIAL MARKING REQUIREMENTS OR USE OF SPECIAL MARKING INSTRUMENTS OR COLORS WILL BE NOTED IN THE SALES ORDER AND THE SALES ORDER WORKUP FORM. CONTACT QA IF ANY QUESTIONS ABOUT THE MARKING

- B) RECORD ALL INSPECTION DATA AND FINDINGS ON THE ORDER PROCESSING FORM.
- C) KEEP Q.A.; SALES AND SHIPPING INFORMED ON DISPOSITION OF ORDERS BY FAXING A COPY OF ORDER PROCESSING FORM WITH INSPECTION & ACCEPTANCE AND/OR REJECTION INFORMATION

QA-2

5/1/2019

APPROVED

JA

CALIBRATION RECORD

TYPE OF EQUIPMENT

SERIAL NUMBER

DATE CALIBRATED

CALIBRATED BY

QA-3

5/1/2019

APPROVED JA

LOUISIANA STEEL, INC.
CALIBRATION TAG

LOUISIANA STEEL INC.

CALIBRATION TAG

ITEM CALIBRATED _____

CALIBRATION DUE _____

BY _____

FORM QA-3

QA-4

5/1/2019

APPROVED JA

CORRECTIVE ACTION REPORT

SALES ORDER NUMBER _____

CUSTOMER _____

REASON FOR NON-CONFORMANCE _____

PERSON INITIATING NON-CONFORMANCE REPORT _____

DATE OF ISSUE OF NON-CONFORMANCE REPORT _____

(ATTACH NON-CONFORMANCE REPORT FORM OPS-4 AND BECH REPORT FORM OPS-6)

CORRECTIVE ACTION TAKEN _____

REINSPECTION _____

APPROVED _____

FORWARD TO QA MANAGER _____ PROCESS FILE _____

DATE _____

QA-5

5/1/2019

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APPROVED JA

LOUISIANA STEEL, INC.
COTTLEVILLE, MO 63376

VISUAL AND DIMENSIONAL EXAMINATION
INSPECTION PROCEDURE

PREPARED BY _____ DATE _____

REVIEWED AND APPROVED BY _____ DATE _____

MANAGER OF QUALITY ASSURANCE

VISUAL AND DIMENSIONAL EXAMINATION INSPECTION PROCEDURE

- 1) SCOPE
THIS STANDARD IS USED FOR THE VISUAL AND DIMENSIONAL EXAMINATION OF TUBING AND PIPE. ONLY QUALIFIED INSPECTORS SHALL PERFORM THIS EXAMINATION. MATERIAL NOT SUITABLE FOR VISUAL INSPECTION SHALL BE RETURNED TO THE APPROPRIATE DEPARTMENT FOR RECLEANING PRIOR TO INSPECTION
- 2) ORDER REVIEW
REVIEW THE MILL ORDER AND ACKNOWLEDGEMENT FOR ALL IMPORTANT ORDER PARTICULARS SUCH AS SIZE, TYPE, SPECIFICATIONS, ETC.
- 3) ACCEPTANCE STANDARD
THE ASTM SPECIFICATION, CUSTOMER SPECIFICATION AND/OR CUSTOMER PURCHASE ORDER SHALL BE THE BASIS FOR ACCEPTANCE.
- 4) ORDER PROCESS FORM – OPERATIONS REVIEW
CHECK THE OPERATION SIGNOFF AND TUBE NUMBER (IF APPLICABLE) AND BRING ANY DISCREPANCIES TO THE ATTENTION OF RESPONSIBLE SUPERVISION. DO NOT RELEASE ANY TUBE IF ALL POINTS HAVE NOT BEEN SIGNED OFF UNTIL ANY NECESSARY CORRECTIVE ACTION HAS BEEN APPROVED BY THE MANAGER OF QUALITY ASSURANCE

PRE-INSPECTION

INSPECTORS SHALL INSPECT THE OD AND WELDS FOR ANY CONDITION THAT WILL BE REJECTED AT FINAL INSPECTION, AND HAVE IT REPAIRED OR REMOVED IN ACCORDANCE WITH ITS NATURE, SEVERITY AND EXTENT.

- 5) VISUAL EXAMINATION
MAKE GENERAL INSPECTION OF OD, WELD, AND BASE MATERIAL, MARKING AND DEFECTS THAT CAN BE SALVAGED BY SPOT GRINDING AND/OR POLISHING.
- 6) REPAIR
 - A) THERE SHALL BE NO BASE METAL WELD REPAIRS WITHOUT THE APPROVAL OF THE MANAGER OF QUALITY ASSURANCE.

- B) REPAIR BY WELDING SHALL NOT BE ALLOWED IF "NO WELD REPAIR" IS STATED ON PURCHASE ORDER, SALES ORDER, AND SALES ORDER WORKUP FORM
- C) DEFECTS MAY BE REMOVED BY SPOT GRINDING AND/OR POLISHING WITHIN ALLOWABLE TOLERANCE LIMITS. SUCH REPAIRS SHALL BE SMOOTHLY BLENDED INTO SURROUNDING AREAS.
- 7) DIMENSIONAL INSPECTION
- A) ALL MICROMETERS SHALL BE CALIBRATED TO THE REQUIREMENTS OF THE QUALITY ASSURANCE MANUAL
- B) CHECK THE O.D., WALL, OVALITY, AND LENGTH FOR CONFORMANCE TO THE MILL ORDER AND SPECIFICATION. RECORD FINDINGS ON THE ORDER PROCESS FORM- OPERATIONS.
- C) CHECK THE STRAIGHTNESS, SQUARENESS OF CUT AND ANY OTHER DIMENSIONAL REQUIREMENTS WHEN SPECIFIED, AND IF A PROBLEM IS OBVIOUS, RECORD FINDINGS.
- D) O.D. DIMENSIONS WILL BE DETERMINED USING A PI TAPE, AND READINGS WILL BE TAKEN AT BOTH ENDS AND THE MIDDLE OF THE PIPE OR TUBE. PIPE THAT HAS BEEN GROUND MUST HAVE O.D. MEASURED ON THE GROUND AREAS FOR COMPLIANCE TO THE SPECIFICATION. IF INDICATED ON THE ORDER PROCESS FORM O.D. MEASUREMENTS SHALL BE TAKEN WITH AN O.D. MICROMETER.
- E) WALL THICKNESS MEASUREMENTS WILL BE TAKEN WITH A MICROMETER, AT BOTH ENDS OF TUBE AT THE FOLLOWING LOCATIONS (AT A MINIMUM)
- 1) WELD
 - 2) NINETY DEGREES FROM THE WELD
 - 3) ONE HUNDRED EIGHTY DEGREES FROM THE WELD
- GROUND AREAS WILL BE SPOT CHECKED FOR COMPLIANCE TO THE SPECIFICATION
- F) IF I.D. MEASUREMENTS ARE REQUIRED, IT WILL BE DETERMINED BY MEASUREMENT OF THE O.D. BY PI TAPE, THEN SUBTRACTING TWICE THE AVERAGE WALL THICKNESS MEASURED AT THE ABOVE LOCATIONS. IF INDICATED ON THE ORDER PROCESS FORM I.D. MEASUREMENTS SHALL BE TAKEN WITH AN I.D. MICROMETER.
- 8) REPORTING
- RECORD ALL INSPECTION DATA AND FINDINGS ON THE INSPECTION REPORT, INCLUDING THE REASON FOR REJECTION. MAKE OUT A DETAILED REJECTION

QA-5

5/1/2019

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APPROVED JA

TAG TO INDICATE ANY NECESSARY REWORK, SCRAP, OR DISPOSITION OF
REJECTS.

QA-6

5/1/2019

PAGE 1 OF 2

APPROVED JA

LOUISIANA STEEL, INC.
COTTLEVILLE, MO 63376

REPORTING OF DEFECTS AND NONCOMPLIANCE PROCEDURE

PREPARED BY _____ DATE _____

REVIEWED AND APPROVED BY _____ DATE _____

MANAGER OF QUALITY ASSURANCE

REPORTING OF DEFECTS AND NONCOMPLIANCE PROCEDURE

1) SCOPE

THIS PROCEDURE APPLIES TO PRODUCT PRODUCED AT LOUISIANA STEEL, INC. AND SOLD TO NUCLEAR SPECIFICATIONS OR FOR KNOWN NUCLEAR APPLICATIONS. THE PROCEDURE HAS BEEN PREPARED IN COMPLIANCE WITH THE UNITED STATES NUCLEAR REGULATORY COMMISSION RULES AND REGULATION PART 21, WHICH COVERS IMPLEMENTATION OF SECTION 206 OF THE ENERGY REORGANIZATION ACT OF 1974. IT PERTAINS TO THE REPORTING OF A DEFECT OR DEFECTS IN A COMPONENT OR PART THAT COULD CONSTITUTE A SUBSTANTIAL SAFETY HAZARD IN A NUCLEAR REACTOR OR SAFETY RELATED SYSTEM. IT IS REQUIRED BY LAW THAT ANY PERSON HAVING KNOWLEDGE OF A DEFECTIVE COMPONENT OR PART MUST INITIATE ACTION TO NOTIFY THE RECIPIENT OF THE MATERIAL AND THE NUCLEAR REGULATORY COMMISSION.

THE RECOMMENDED PROCEDURE FOR NOTIFICATION TO COMPLY WITH PART 21 IS OUTLINED BELOW:

- A) EMPLOYEE – DISCUSS THE PRODUCT DEFECT OR NO-COMPLIANCE WITH YOUR IMMEDIATE SUPERVISOR.
- B) SUPERVISOR – NOTIFY THE PLANT MANAGER AND MANAGER OF QUALITY CONTROL. THEY WILL EVALUATE THE DEVIATIONS AS SOON AS POSSIBLE, BUT IN ALL CASES WITHIN 60 DAYS OF DISCOVERY.
- C) PLANT MANAGER – WHEN THE EVALUATION IS COMPLETE, THE PRESIDENT OF LOUISIANA STEEL SHOULD BE NOTIFIED WITHIN NO MORE THAN 5 WORKING DAYS
- D) THE PRESIDENT OF LOUISIANA STEEL – NOTIFY THE CUSTOMER WITHIN 5 WORKING DAYS. (SINCE WE PROVIDE A “BASIC COMPONENT”, OUR CUSTOMER OR THE LICENSEE HAS A BETTER CAPABILITY TO PERFORM AN EVALUATION OF WHETHER OR NOT THIS ITEM IS A “SUBSTANTIAL SAFETY HAZARD”. A COPY OF THE WRITTEN CORRESPONDENCE WILL BE SENT TO THE PERSON INITIALLY REPORTING THE DEFECT OR NON-COMPLIANCE.
- E) A CORRECTIVE ACTION WILL BE INITIATED UPON COMPLETE INVESTIGATION

QA-7

5/1/2019

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APPROVED JA

LOUISIANA STEEL, INC.
COTTLEVILLE, MO 63376

CONTAMINATION CONTROL AND CORRECTION PROCEDURE

PREPARED BY _____ DATE _____

REVIEWED AND APPROVED BY _____ DATE _____

MANAGER OF QUALITY ASSURANCE

CONTAMINATION CONTROL AND CORRECTION PROCEDURE

- 1) SCOPE
THIS PROCEDURE SHALL BE USED FOR THE CONTROL OF CONTAMINATION FROM CARBON AND CHLORIDES ON MATERIAL PRODUCED FROM STAINLESS STEEL, NICKEL AND NICKEL ALLOYS.
- 2) CARBON CONTAMINATION
STAINLESS PIPE/TUBE SHALL ONLY BE MOVED WITH NYLON STRAPS. WORKSTATIONS SHALL HAVE WOOD, PLASTIC OR HEAVY CARDBOARD COVERING ANY EXPOSED AREAS NOT MADE FROM STAINLESS STEEL.
- 3) CHLORIDE CONTAMINATION
INK SHALL BE OF NUCLEAR GRADE AND CONTAIN LESS THAN 10 PPM OF LEACHABLE CHLORIDES
- 4) CORRECTIVE ACTION
PASSIVATE TO REMOVE CONTAMINATE, IF NECESSARY. ACTION TO BE DETERMINED PER PURCHASE ORDER, CUSTOMER DIRECTIVE OR MANAGER OF QUALITY ASSURANCE.

FLATTENING TEST

SEAMLESS ROUNDS:

Original size (minimum 2-1/2" long sample):

Step 1: Flatten until tube is below formula: $H = (1+e)t/(e+t/D)$

H= distance between plates

e= deformation per unit length (constant for a given grade of steel, 0.09 for Grade A, 0.07 for Grade B, and 0.06 for Grade C)

t = wall thickness

D = outside diameter

STARTING ROUND _____ FORMULA THRESHOLD _____

Record any observed cracks or breaks on the od and id: _____

Step 2: Flatten until the test specimen breaks or the opposite walls meet.

FINAL MEASUREMENT _____



WELDED ROUNDS

Original size (minimum 4" long sample, weld placed 90 degrees from the line of direction of force):

Step 1: Flatten sample to less than 2/3's of original OD.

STARTING ROUND _____ FORMULA THRESHOLD _____

Record any observed cracks or breaks on the OD and ID: _____

Step 2: Flatten sample to less than 50% of original OD.

FORMULA THRESHOLD _____

Record any observed cracks or breaks on the OD and ID: _____

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5/1/2019

PAGE 2 OF 2

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Step 3: Flatten until the test specimen breaks or the opposite walls meet.

FINAL MEASUREMENT _____

*Note: no cracks or breaks are allowed during Step 1 for either smls or welded. ID cracks are permissible at 6 o'clock and 12 o'clock during Step 2 if the D to t ratio is less than 10.