BEFORE THE
FLORIDA BUILDING COMMISSION

DCA08-BC-360

IN RE: Petition of **POWERS STEEL CORPORATION**
To REVOKE Product Approval and Quality Assurance Entity
Representative of FL No. 158 (**Cast-Crete Corporation and**
Craig Parrino)

Petition No. ________

FILING AND ACKNOWLEDGEMENT
FILED ON THIS DATE, with the designated Agency Clerk, receipt of which is hereby acknowledged.

12/31/08
Date
Deputy Agency Clerk

PETITION TO REVOKE PRODUCT APPROVAL AND ENTITY DESIGNATIONS

POWERS STEEL CORPORATION, pursuant to Rule 9B-72-160(1) and (2), Florida Administrative Code ("FAC"), hereby petitions the FLORIDA BUILDING COMMISSION ("FBC" or "Commission") to revoke product approval FL No. 158, and all renewals thereof, manufactured by Cast-Crete Corporation, as well as the Quality Assurance Entity Representative, Craig Parrino, associated therewith, and would show as follows:

1. Powers Steel Corporation ("PSC") is an Arizona corporation, authorized to transact business in the State of Florida, engaged in the fabrication of steel, including building products consisting of lintels, and is the holder of various product approvals duly issued to it by the Commission.

2. The Commission is a public collegial body, created pursuant to Section 553.74, Florida Statutes (2008), charged with the authority, power and duty, inter alia, to develop and implement a product evaluation and approval system pursuant to Sections 553.77(1)(f) and 553.842(1), Florida Statutes (2008), for structural building products to be used in the State of Florida that meet all requirements of the Florida Building Code ("Code"), including authority to revoke of any such approvals pursuant to Section 553.842(14), Florida Statutes (2008).

3. The powers and duties of the Commission also include approvals of various entities for product evaluation and validation, agencies for quality assurance and certification, and testing laboratories, as well as the revocations thereof, also pursuant to Section 553.842(14), Florida Statutes (2008).

4. To implement this approval and revocation process, FBC has adopted various rules in Chapter 9B-72, Florida Administrative Code, including the following:

A. Rule 9B-72-010(6) defines "Approved quality assurance entity," and requires such entity to provide oversight and to determine that an approved product is being manufactured as submitted for approval and being compliance with the Code.

B. Rule 9B-72.100(5) sets forth the approval process for a quality assurance agency, and subsection (d) thereof requires an audit both of a manufacturer's quality assurance program and production quality;

C. Rule 9B-72.160(1)(a) sets forth the grounds for revocation of any product approval, including, but not limited to, failure to maintain quality assurance programs for the manufacturing in accordance with the approval process;

D. Rule 9B-72-160(2)(a) sets forth the grounds for revocation of a quality assurance agency, including, but not limited to, failure to maintain independence from the manufacturer; and,

E. Rule 9B-72.170 requires FBC to investigate non-compliance with the Code of products that have been approved by the Commission.

5. The Commission has approved the application of Cast-Crete Corporation ("CCC") for Product Approval FL No. 158, including renewals thereof, for Precast or Prestressed concrete lintels, based on those products being in compliance with the Florida Building Code, which

approvals included the designation of Craig Parrino, a Florida Professional Engineer #44756 and Vice-President of CCC, as the Quality Assurance Entity Representative.

6. Notwithstanding the Commission's approval of FL No. 158, specimens of the Precast or Prestressed concrete lintel products manufactured by CCC under the terms and conditions of this product approval fail to comply with the requirements of the Code in at least the following respects:

A. Section 1907.7.3[1] has adopted American Concrete Institute ("ACI") standard 318, regarding the manufacture of structural concrete products, and Section 7.7.3 thereof requires minimum concrete coverages of steel reinforcing bars;

B. All applicable editions of the Code, such as Section 1922.4.4, have adopted American Welding Society ("AWS") standard D1.4, restricting the manner and method of welding certain types of steel reinforcing bars by a certified welder; and,

C. Section 1922.4.5 requires that any welding of reinforcing steel must be indicated on the drawings with specificity as to the welding procedure to be used. None of the drawings submitted for this product approval reflect or describe any information regarding welding.

7. Attached hereto as Exhibit "A" is a written summary dated December 23, 2008 issued by Certified Testing Laboratories, Inc. ("CTL"), confirming numerous failures of various specimens of FL No. 158, the concrete lintels manufactured by CCC, to meet Code requirements as described in Test Report CTLA1921W, which support the allegations of Code non-compliance as set forth in paragraph 6 A. and B. above.

[1] See also Section 1903.1.

8. Attached hereto as Exhibit "B" is the Test Report CTLA1921W prepared by CTL, dated December 23, 2008, setting forth the inspections and findings regarding insufficient concrete coverages and improper welding of rebar noted from the deconstruction of nine (9) specimens of FL No. 158, the concrete lintels manufactured by CCC, which also support the allegations of Code non-compliance as set forth in paragraph 6 A. and B. above.

9. As the designated Quality Assurance Entity Representative, Craig Parrino, failed to act independently of the manufacturer, CCC, which is also his employer, and did not perform the required duties and responsibilities imposed by law on the Quality Assurance Entity.

Requested Relief

10. Wherefore, Petitioner respectfully requests that:

A. FBC accept this petition as a written compliant pursuant to Rule 9B-72.160(1)(d) and (2)(d) and order an investigation of the allegations contained herein regarding the numerous areas of non-compliance of product approval FL No. 158 with the Code and the non-compliance of that product's Quality Assurance Entity Representative;

B. Based on the results of its investigation, FBC set the revocation of FL No. 158 either for an informal hearing by the Commission if there are no disputed issues of material facts, or refer this matter for formal hearing to the Division of Administrative Hearings ("DOAH") if there are disputed issues of material facts, and determine the non-compliance of FL No. 158 with the Code and the non-compliance of that product's Quality Assurance Entity Representative;

C. Enter a Final Order revoking or suspending all of the Commission's product approvals for FL No. 158, as well as the designation of Craig Parrino as the Quality Assurance Entity Representative thereof; and,

D. Grant Petitioner such other relief as may be deemed appropriate under the circumstances.

Respectfully submitted this 31st day of December, 2008.

Fred R. Dudley, Fla. Bar No. 111060
Mia L. McKown, Fla. Bar No. 897140
HOLLAND & KNIGHT LLP
315 S. Calhoun Street,
Tallahassee, FL 32302 (850) 425-5668
Attorneys for Petitioners,
Powers Steel Corporation

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that the original of this Petition has been provided via hand delivery to Jim Richmond, attorney for Florida Building Commission, c/o Florida Department of Community Affairs, Building Codes and Standards, 2555 Shumard Oaks Blvd., Tallahassee, Florida 32399-2100, on this 31st day of December, 2008.

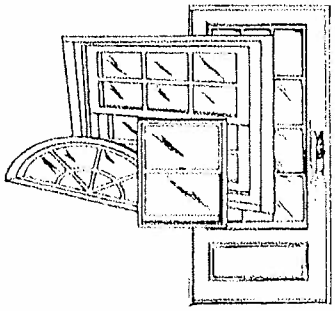
Fred R. Dudley

5833269_v1

December 23, 2008

Certified Testing Laboratories

7252 Narcoossee Road
Orlando, FL 32822
Phone 800-381-7744
Fax 407-384-7751
E-mail trace@ctlarch.com



To whom it may concern,

Mr. Bill Powers contacted Certified Testing Laboratories with regard to testing four (4) sizes of Concrete Lintels [10'-6", 11'-4", 13'-4", and 14'-0"]. The test specimens were constructed by Cast-Crete Corporation and documented for compliance with FBC 1907.7.3, AWS D1.4, and ACI 318-05 Sections 3.5.2, 7.7.3, and 7.5.4. The intent of this letter is to summarize the data obtained from the comparisons made by Certified Testing Laboratories, Inc. referencing test report number CTLA 1921W.

The results obtained in procedure "A" indicate that specimens 4, 5, and 6 did not meet the minimum requirements of concrete coverage for concrete exposed to weather as stated in ACI 318-05 Section 7.7.3. Specimens 4 and 5 did not meet the minimum requirements of concrete coverage not exposed to weather as stated in ACI 318-05 Section 7.7.3. The results obtained in procedure "B" indicates that specimens 1, 2, 3, 7, 8, and 9 did not meet the minimum requirements of acceptable fillet weld profiles set forth by AWS D1.4. Please see attached CWI report with pictures referenced in test report CTLA 1921W.

Submitted,

Jonathan Pittenger

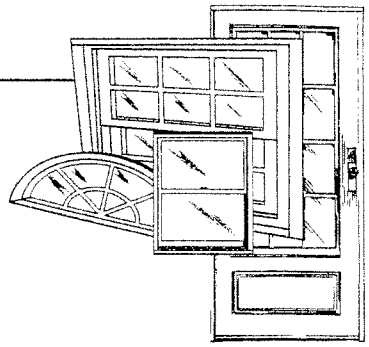
Lab Technician

Architectural Division

EXHIBIT A

CERTIFIED TESTING LABORATORIES

Architectural Division • 7252 Narcoossee Rd. • Orlando, FL 32822
(407) 384-7744 • Fax (407) 384-7751
Web Site: www.ctlarch.com
E-mail: ctlarch.com



Test Report: CTLA 1921W
Report Date: December 23, 2008

Powers Steel, Inc. Report

Client: **Powers Steel, Inc.**
4118 E. Elwood
Phoenix, AZ 85040

Series or Product: **8" "Cast-Crete" Precast Concrete U-Lintels**
[10'-6", 11'-4", 13'-4", and 14'-0" in length]

Project Scope: Gill Summers of Powers Steel, Inc. contacted Certified Testing Laboratories with regard to testing four (4) sizes of Concrete Lintels [10'-6", 11'-4", 13'-4", and 14'-0"]. The test specimens were constructed by Cast-Crete Corporation and documented for compliance with FBC 1907.7.3, AWS D1.4, and ACI 318-05 Sections 3.5.2, 7.7.3, and 7.5.4.

Construction Details: Three (3) specimens [1, 4, and 7] measured 7.625" wide x 7.625" high x 168" long
Two (2) specimens [2 and 5] measured 7.625" wide x 7.625" high x 160" long
Three (3) specimens [3, 6 and 8] measured 7.625" wide x 7.625" high x 136" long
One (1) specimen [9] measured 7.625" wide x 7.625" high x 126" long
Note: Specimens # 7, 8, 9 were reported to be from Miami.

Procedures:

Procedure "A"

Test Specimens shall consist of one (1) of each length of 8" lintels: Specimen #1, #2, & #3 (3 total). Make three (3) saw cuts at a 90 degree angle perpendicular to the lintel span at the following locations: one (1) mid-span, one (1) 12" from each end of lintel. Three (3) saw cuts per lintel shall be made for a total of nine (9) cuts. Photo/Measure the reinforcement within each cross-section (9 total) herein referred to as [A, B, C]. Document the size and location of the rebar reinforcement along with the concrete coverage over the rebar reinforcements from the bottom and sides of lintel. Compare the results with the minimum requirements of The Florida Building Code Section 1907.7.3 & ACI 318-05 Section 7.7.3 (*photos #1, #2, #3 included in report*)

Procedure "B"

Test Specimens shall consist of one (1) of each length of 8" lentils: Specimen #2 & #9 along with two (2) of each length of 8" lentils: Specimen #3 & #8 and Specimen #1 & #7, for a total of six (6) specimens. Chip away the concrete of each lintel to reveal the reinforcing cages beneath. Photo/Measure the reinforcement cages (6 total). Document the grade of rebar [GR60]. Document if rebar is weldable [A706] or non-weldable [A615]. Photo/Measure the welds made to the rebar and compare the results to the minimum requirements of AWS D1.4 & ACI 318-05 Section 7.5.4 and Section 3.5.2

12/23/08

EXHIBIT B

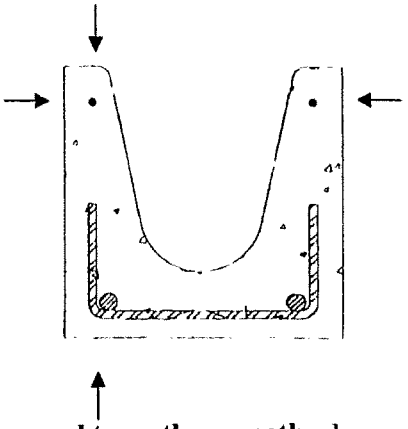
Documentation Results

Procedure "A" Results:

Documented for comparison with ACI 318-05 Section 7.7.3

Specimen # 4, 5, & 6

Note: Measurements were at each rebar location measuring from:
left edge | right edge | from top | from bottom
(*Refer to drawing # CTL-001 for more information and example*)



Specimen # 4, 5, & 6: Top Steel is #3 Rebar GR60
Bottom Steel is #5 Rebar GR60

Minimum coverage allowed as stated in ACI 318-05 Section 7.7.3 (a) [Concrete exposed to earth or weather]
1-¼" minimum coverage for No. 5 bar and smaller, prestressing tendons 5/8" diameter and smaller, W31 and D31 wire and smaller
Allowable = 1-1/4"

Minimum coverage allowed as stated in ACI 318-05 Section 7.7.3 (b) [Concrete not exposed to earth or weather]
5/8" minimum coverage for No. 11 bar and smaller, W31 or D31 wire, and smaller
Allowable = 5/8"

	Top-Left Steel	Top-Right Steel	>= 5/8" Coverage	>= 1-¼" Coverage
Specimen 4	**[14'-0"]**			
Section A	1 1/16" | 0" | 1 3/8" | 5 7/8"	1/8" | ¾" | ½" | 6 ¾"	Allowable Not Met	Allowable Not Met
Section B	½" | 3/8" | 3/8" | 6 7/8"	5/8" | ¾" | ½" | 6 3/8"	Allowable Not Met	Allowable Not Met
Section C	7/8" | 1/16" | 3/8" | 6 7/8"	¾" | ¾" | 9/16" | 6 3/8"	Allowable Not Met	Allowable Not Met
Specimen 5	**[13'-4"]**			
Section A	1 1/8" | 0" | 1 1/16" | 6 3/16"	¾" | 5/8" | ¾" | 6 ¼"	Allowable Not Met	Allowable Not Met
Section B	1" | 0" | 7/8" | 6 ¾"	1/8" | ¾" | 7/8" | 6 ½"	Allowable Not Met	Allowable Not Met
Section C	1 1/8" | 1/8" | 1 3/8" | 5 ¾"	0" | 5/8" | ½" | 6 5/8"	Allowable Not Met	Allowable Not Met
Specimen 6	**[11'-4"]**			
Section A	¾" | 1/8" | 1 ¼" | 6"	1/8" | 1 1/8" | 1 1/8" | 6"	Allowable Not Met	Allowable Not Met
Section B	5/8" | ¾" | 1 ¼" | 6 ¼"	1/8" | 1 1/8" | 3 1/8" | 4 ½"	Allowable Not Met	Allowable Not Met
Section C	7/8" | ¼" | ¾" | 6 7/8"	1/8" | 1 1/8" | 1 ¼" | 6 ¼"	Allowable Not Met	Allowable Not Met

	Bottom-Left Steel	Bottom-Right Steel	>= 5/8" Coverage	>= 1-¼" Coverage
Specimen 4	**[14'-0"]**			
Section A	1" | 6 1/16" | 6" | 1 1/8"	6 ½" | 5/8" | 6 ½" | 5/8"	Allowable Not Met	Allowable Not Met
Section B	7/8" | 6 1/8" | 6" | 1"	6 ½" | 5/8" | 6 ½" | ½"	Allowable Not Met	Allowable Not Met
Section C	3/8" | 6 5/8" | 5 ¾" | 1 1/8"	6" | 1" | 6 3/8" | 5/8"	Allowable Not Met	Allowable Not Met
Specimen 5	**[13'-4"]**			
Section A	1 1/8" | 6" | 6 ¼" | ¾"	6 3/8" | ¾" | 6 ¼" | 5/8"	Allowable Met	Allowable Not Met
Section B	7/8" | 6" | 6 ¼" | ¾"	6 1/8" | ¾" | 6 ¼" | 5/8"	Allowable Met	Allowable Not Met
Section C	1" | 6 1/8" | 6 ¼" | 5/8"	6 ¼" | ¾" | 6 3/8" | ½"	Allowable Not Met	Allowable Not Met
Specimen 6	**[11'-4"]**			
Section A	1" | 6 ¼" | 6 3/8" | 5/8"	6 ¼" | 7/8" | 6" | 7/8"	Allowable Met	Allowable Not Met
Section B	¾" | 6 ¼" | 6 5/8" | ¾"	6" | 1" | 6 3/8" | 1"	Allowable Met	Allowable Not Met
Section C	7/8" | 6 ¼" | 6 5/8" | ¾"	6 ¼" | ¾" | 6 1/8" | 1 1/8"	Allowable Met	Allowable Not Met

Note: Refer to attached photos #1, #2, #3

12/30/06

Procedure "B" Results

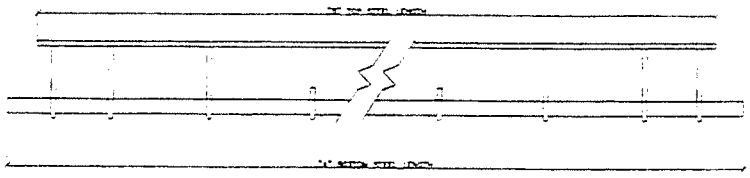
Documented for comparison to AWS D1.4

See Attached Visual Weld Inspection Report No. CTLA 1921W by Christopher W. Reed (Certified Weld Inspector) dated November 5th, 2008 outlining weld defects within all six specimens inspected.

Specimen # 1, 2, 3, 7, 8, & 9

Note: Measurements were taken from left to right. Bottom rebar was documented as "5 S 60 Dominican Rep"

NOA No. 06-0222.01 Does not indicate where or what type of welds are to be done for stirrups on reinforcements. (*Refer to drawing # CTL-002 for more information and example*)



Specimen 1

Two (2) 164" of #3 Grade 60 A615 3/8" rebar
Two (2) 166.25" of #5 Grade 60 A615 5/8" rebar connected with eight (8) 7/32" stirrups

Stirrups were located as follows:	Welds to stirrups on rebar sized as follows:
3", 8 ¾", 18 ½", 60", 113 5/8", 149 ¾", 159 5/8", and 164 ¾"	3/8", ¼", ½", ¾", 3/8", 3/8", 3/8", and ¼"
3", 8 ¼", 18 ½", 59 5/8", 113 ¾", 149 ¾", 159 ½", 164 ¼"	½", ½", 3/16", ½", ½", 3/8", ½", and 5/8"

Stirrup Spacing: **5 ¾" – 9 ¾" – 41 ½" – 53 5/8" – 36 1/8" – 9 7/8" – 5 1/8"**
5 ¼" – 9 ¼" – 41 1/8" – 54 1/8" – 36" – 9 ¾" – 4 ¾"

Specimen 2

Two (2) 155.50" of #3 Grade 60 A615 3/8" rebar
Two (2) 158.50" of #5 Grade 60 A615 5/8" rebar connected with eight (8) 7/32" stirrups

Stirrups were located as follows:	Welds to stirrups on rebar sized as follows:
2", 7", 17 1/8", 53 3/8", 105 ¼", 140 ¾", 150 ½", and 155 7/8"	3/8", ¼", 3/8", 3/8", ½", 3/8", ½", and 3/8"
2", 6 7/8", 17", 53 ½", 105 ¼", 140 5/8", 150 ½", and 155 7/8"	½", ¼", 3/8", ½", 3/8", 3/8", 3/8", and 3/8"

Stirrup Spacing: **5" – 10 1/8" – 36 ¼" – 51 7/8" – 35 ½" – 9 ¾" – 5 3/8"**
4 7/8" – 10 1/8" – 36 ½" – 51 ¾" – 35 3/8" – 9 7/8" – 5 3/8"

Specimen 3

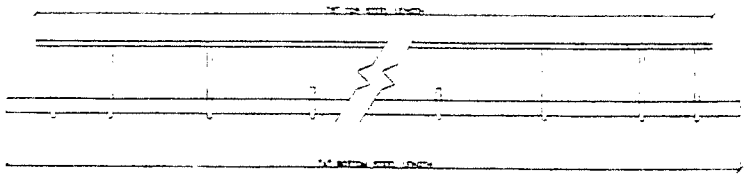
Two (2) 134.375" of #3 Grade 60 A615 3/8" rebar
Two (2) 131.50" of #5 Grade 60 A615 5/8" rebar connected with eight (8) 7/32" stirrups

Stirrups were located as follows:	Welds to stirrups on rebar sized as follows:
1 7/8", 7 ½", 17", 49 ½", 85 ¾", 117 ¼", 127 1/8", and 132 1/8"	3/8", 3/8", 5/8", 3/8", 3/8", 3/8", 5/16", and 3/8"
2 ½", 8", 17 1/8", 49 7/8", 86 ½", 117 5/8", 127 ¼", and 132 5/8"	¾", ¼", ¼", ¼", 3/8", 3/8", ¼", and 3/8"

Stirrup Spacing: **5 5/8" – 9 ½" – 32 ½" – 36 ¼" – 31 ½" – 9 7/8" – 5"**
5 ¾" – 9 1/8" – 32 ¾" – 36 5/8" – 31 1/8" – 9 5/8" – 5 3/8"

12/30/08

Procedure "B" Results (Continued)



Specimen 7
Two (2) 164" of #3 Grade 60 A615 3/8" rebar
Two (2) 167" of #5 Grade 60 A615 5/8" rebar connected with eight (8) 7/32" stirrups

Stirrups were located as follows:	Welds to stirrups on rebar sized as follows:
2", 7 5/8", 17", 52 7/8", 109", 148 ½", 159 ¼", and 164 ¾"	¼", ½", ¼", ½", ½", ½", ½", and 3/8"
2", 7 3/8, 16 ½", 53", 109 5/8", 148 ½", 159 ¼", and 164 ¾"	½", ¼", ¼", ½", 5/8", ¼", ½", and 3/8"

Stirrup Spacing: **5 5/8" – 9 3/8" – 35 7/8" – 56 1/8" – 39 ½" – 10 ¾" – 5 ½"**
5 3/8" – 11 1/8" – 36 ½" – 56 5/8" – 38 7/8" – 10 ¾" – 5 ½"

Specimen 8
Two (2) 131.50" of #3 Grade 60 A615 3/8" rebar
Two (2) 134.50"of #5 Grade 60 A615 5/8" rebar connected with eight (8) 7/32" stirrups

Stirrups were located as follows:	Welds to stirrups on rebar sized as follows:
2 5/8", 8 ½", 18 ¼", 50 ¼", 85 3/8", 117 ½", 127 ¼", and 132 ¼"	½", 3/8", 3/8", 3/8", 3/8", 3/8", 3/8", and ½"
2 3/8", 8", 17 5/8", 50", 84 ¾", 117", 126 7/8", and 132 3/8"	¼", ¼", 3/8", 3/8", ½", ¼", ¼", and ¼"

Stirrup Spacing: **5 7/8" – 9 ¾" – 32" – 35 1/8" – 32 1/8" – 9 ¾" – 5"**
5 5/8" – 9 5/8" – 32 3/8" – 34 ¾" – 32 ¼" – 9 7/8" – 5 ½"

Specimen 9
Two (2) 122.25" of #3 Grade 60 A615 3/8" rebar (Top Steel)
Two (2) 124.50" of #4 Grade 60 A615 ½" rebar connected with eight (8) 7/32" stirrups (Bottom Steel)

Stirrups were located as follows:	Welds to stirrups on rebar sized as follows:
1", 6 3/8", 16 3/8", 40 ¼", 82 ½", 106", 116", and 121 ¾"	¼", ¼", ¼", ¼", ¼", ¼", ¼", and 1/8"
1 ¼", 6 ¼", 16", 40 ½", 82 ¼", 106 ½", 116", and 121 ½"	¼", ¼", ¼", ¼", ¼", ¼", 1/8", and ¼"

Stirrup Spacing: **5 3/8" – 10" – 23 7/8" – 42 ¼" – 23 ½" – 10" – 5 ¾"**
5" – 9 ¾" – 24 ½" – 41 ¾" – 24 ¼" – 9 ½" – 5 ¼"

12/30/08

Test Date: **October 24, 2008**

Remarks: Detailed drawings were available for laboratory records and comparison to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by CTL for a period of four (4) years. The results obtained apply only to the specimen tested.

This test report does not constitute certification of this product, but only that the above test results were obtained using the designated test methods and they indicate compliance with the performance requirements (paragraphs as listed) of the above referenced specifications.

Certified Testing Laboratories assumes that all information provided by the client is accurate and that the physical and chemical properties of the components are as stated by the manufacturer.

Certified Testing Laboratories, Inc.

Test Performed by:

Ted Scanlon	CTL
Sam Fatula	CTL

Clients Present to Witness:
None

Jonathan Pittenger
Lab Technician
CTL Architectural Division

Ramesh Patel P.E.
Florida Reg. # 20224

12/30/08

cc:

Powers Steel, Inc.	(3)
Ramesh Patel P.E.	(1)
File	(1)

Photo #1

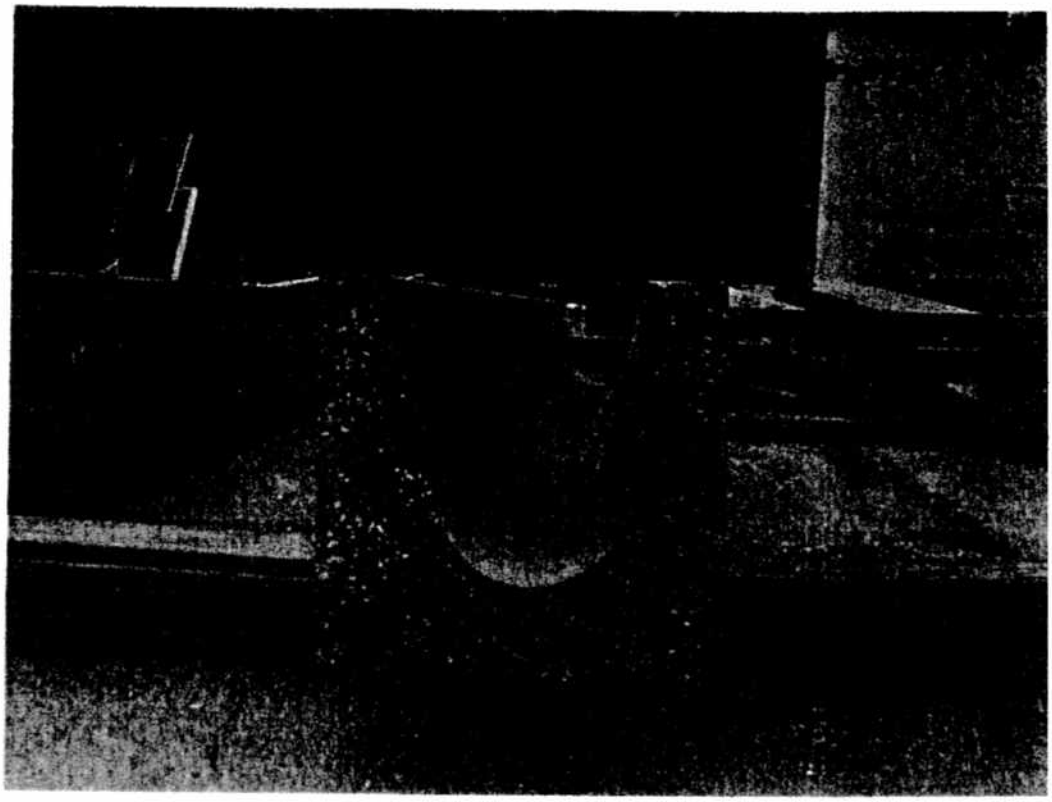


Photo #2

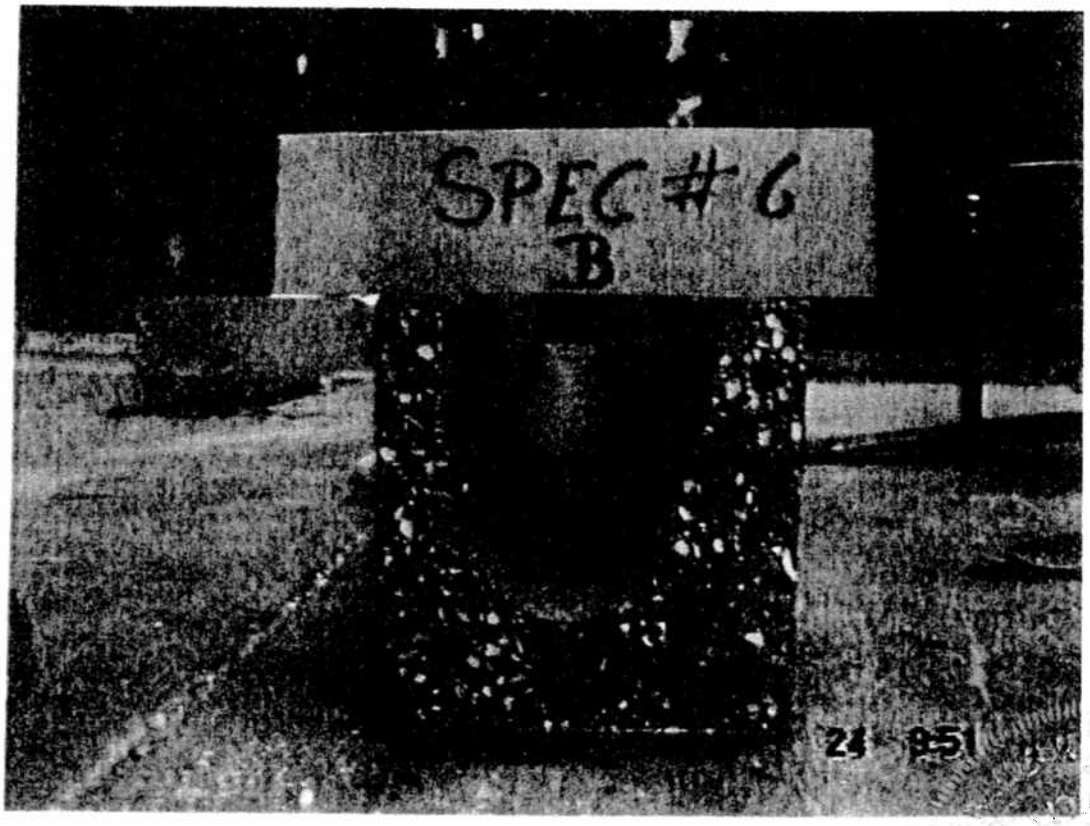
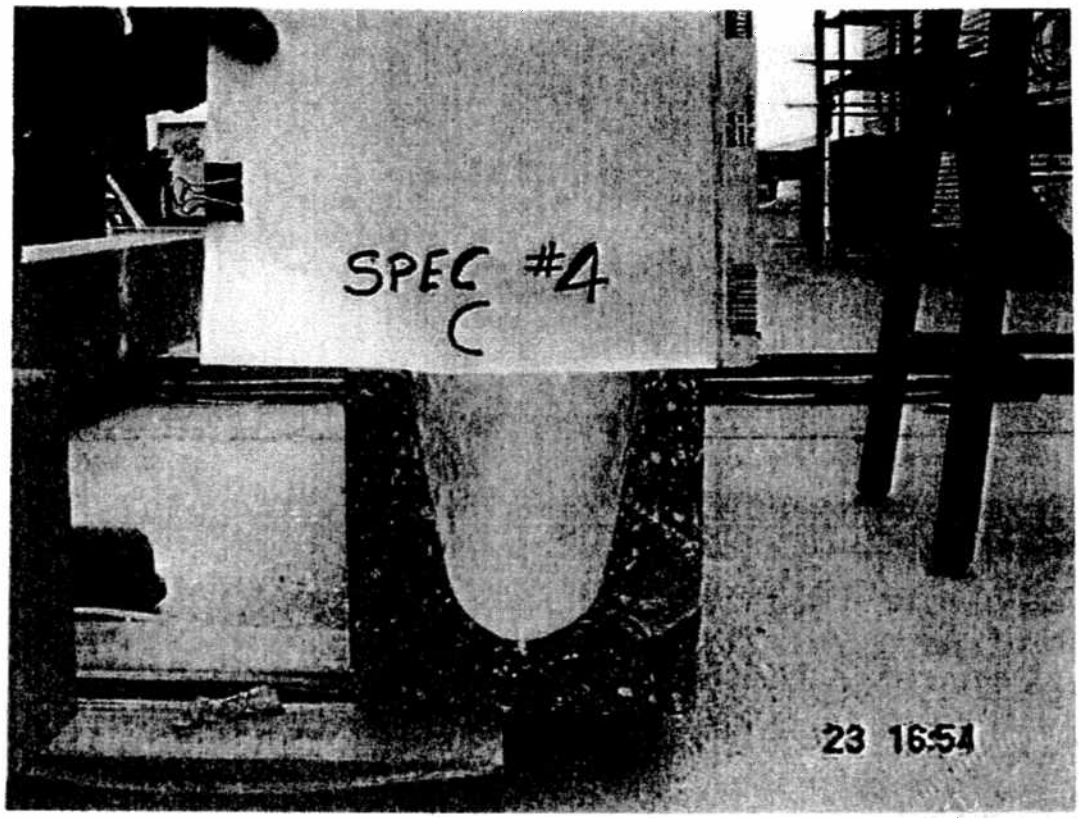
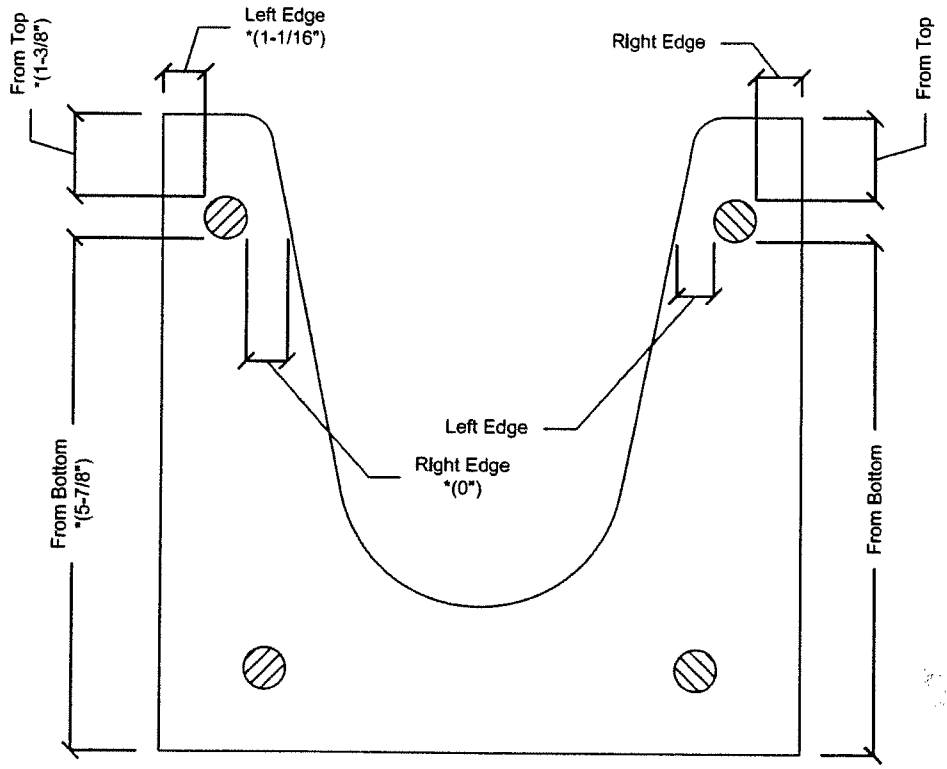


Photo #3



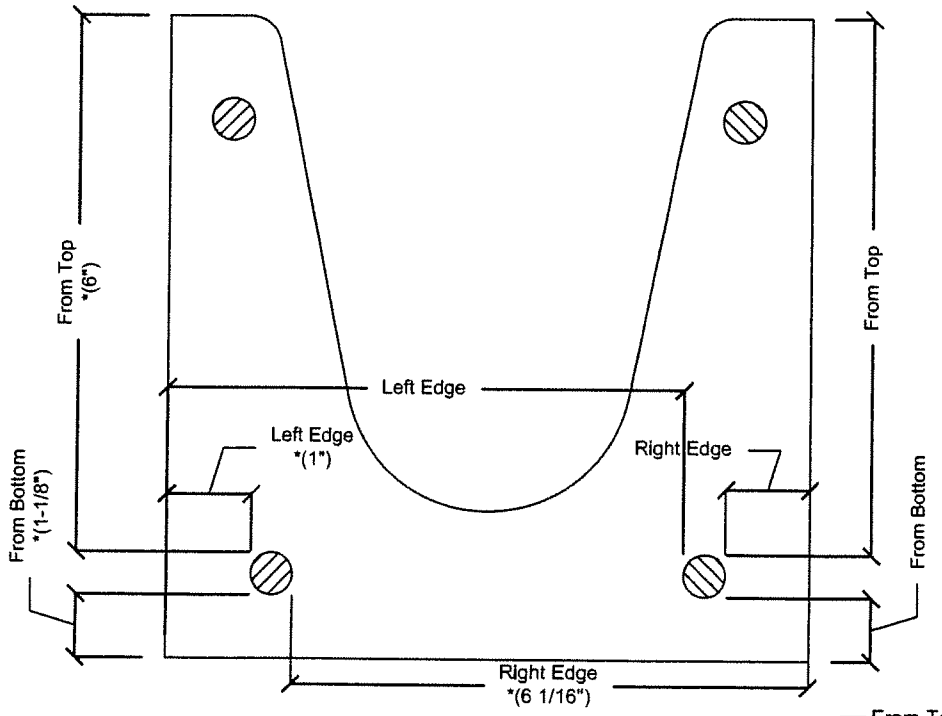


TOP STEEL MEASUREMENTS

From Top
From Bottom

* EXAMPLE: Specimen 4 [14'-0"] Top Left Steel - Section A: Results 1 1/16" / 0" / 1 3/8" / 5 7/8"

Left Edge
Right Edge



BOTTOM STEEL MEASUREMENTS

From Top
From Bottom

* EXAMPLE: Specimen 4 [14'-0"] Bottom Left Steel - Section A: Results 1" / 6 1/16" / 6" / 1-1/8"

Left Edge
Right Edge

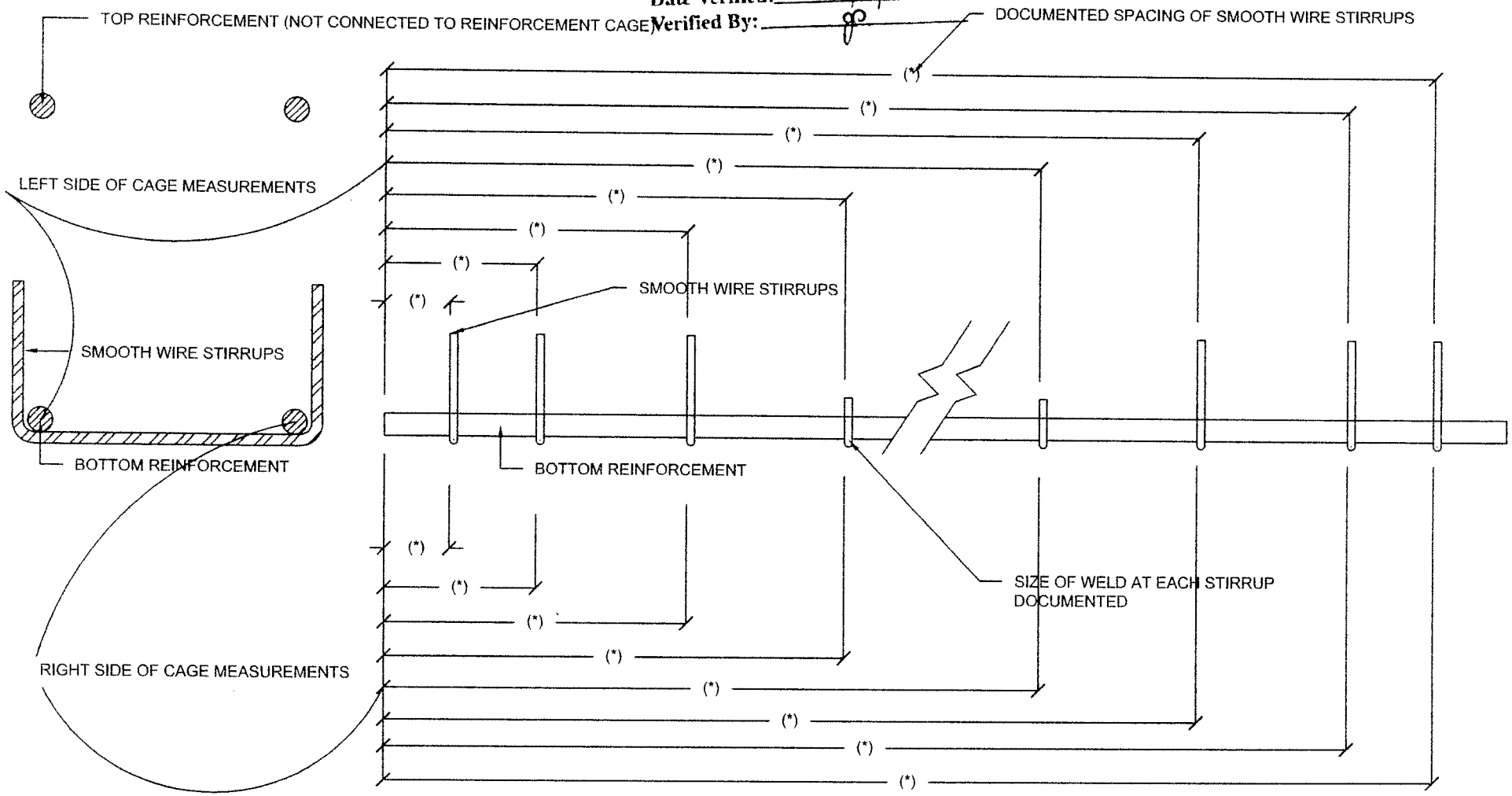
CTL Laboratories
Certified Testing
ARCHITECTURAL DIVISION
7252 NARCOOSSEE ROAD
ORLANDO, FLORIDA 32822

CTLA No. 9213
Date Verified: 10/30/08
Verified By:

CTL-001

CTL CERTIFIED TESTING LABORATORIES
ARCHITECTURAL DIVISION
7252 NARCOOSSEE ROAD
ORLANDO, FLORIDA 32822

CTLA No. 1921W
Date Verified: 12/30/08
Verified By: gp



REINFORCEMENT CAGE SKETCH EXAMPLE

Certified Testing Laboratories

7252 Narcoossee Rd., Orlando, FL 32822
(407) 384-7744 Fax (407) 384-7751
Website: www.ctlarch.com
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November 5, 2008

Powers Steel, Inc.

CTLA 1921W
RE: Visual Inspection of fillet weld hold U shaped rod to rebar.

Inspection: Conducted visual inspection in accordance with AWS D1.4 of fillet welds on rebar.

Using a flashlight and 5x loupe inspected all six (6) specimens for weld defects the specimens inspected were #1, #2, #3 and #7, #8, #9.

Results: Visual Inspection revealed several types of weld defects; the following list is some of the defects noted.

1. Undercut
2. Surface Porosity / Void
3. undersized welds
4. Excessive convexity
5. Inconsistency sizes and locations
6. Melt through

Also, please find attached pictures (pages 1-8) noting defects for all six samples, also included a page from AWS (American Welding Society) D1.4, showing acceptable and unacceptable fillet weld profiles (page 9).

Christopher W. Reed
CWI (Certified Weld Inspector)

CHRISTOPHER W. REED
CWI 00100031
OCI EXP. 10/01/09

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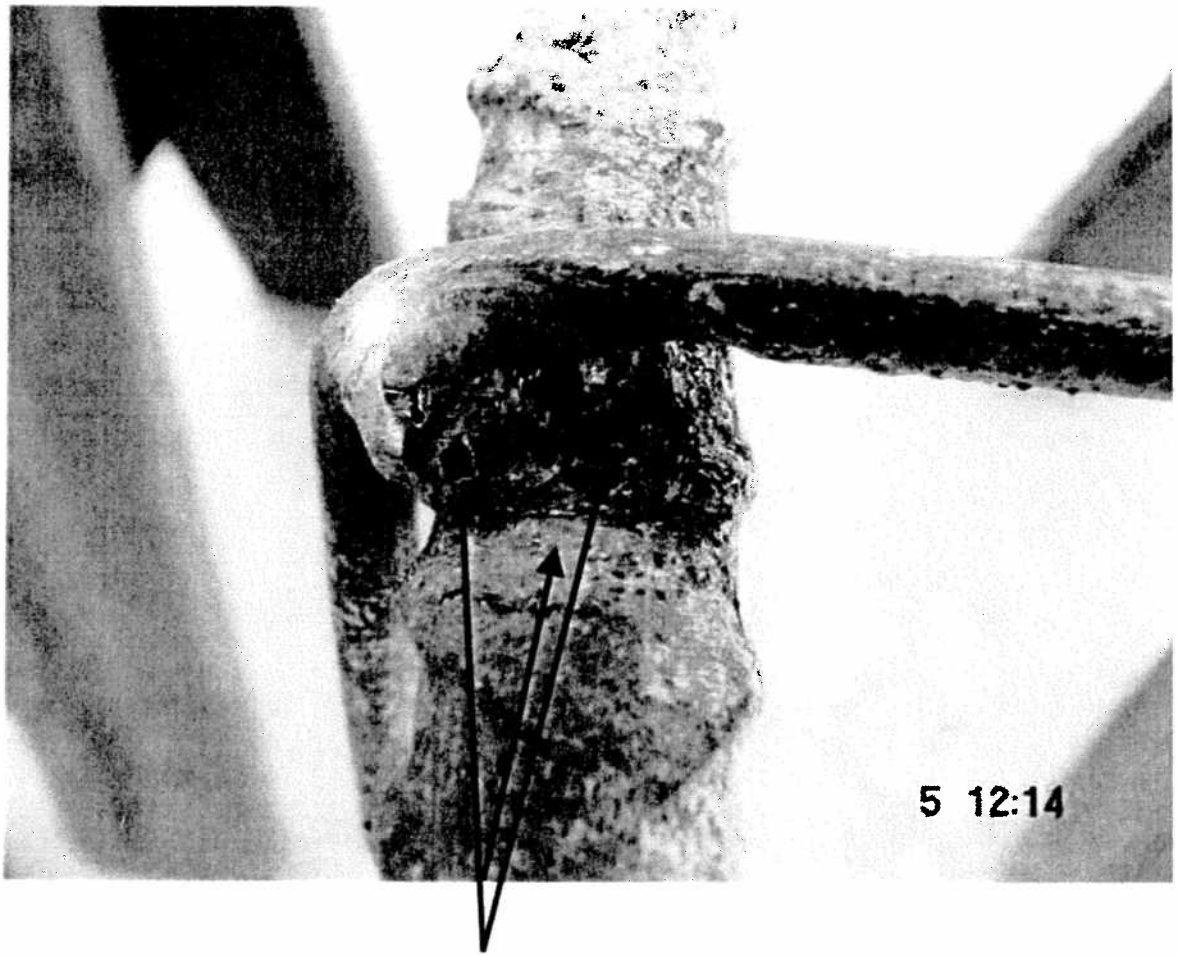

Specimen # 2, Location # 4 Surface Porosity/ Undersized weld profile and undercut

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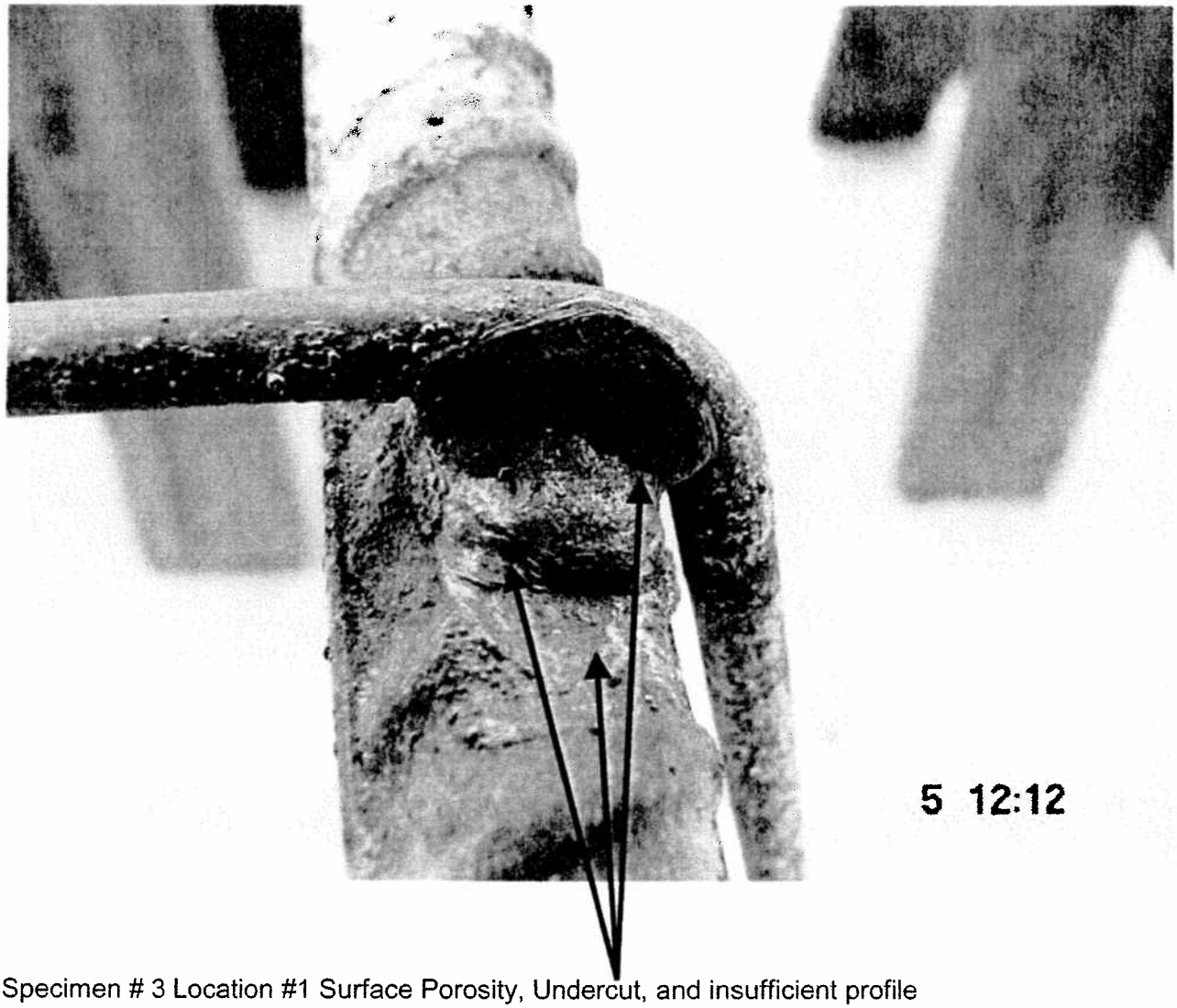

Specimen # 3 Location #1 Surface Porosity, Undercut, and insufficient profile

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Specimen # 9, Location # 2 Voids/ Surface porosity in Fillet weld created by gas pocket coming to surface

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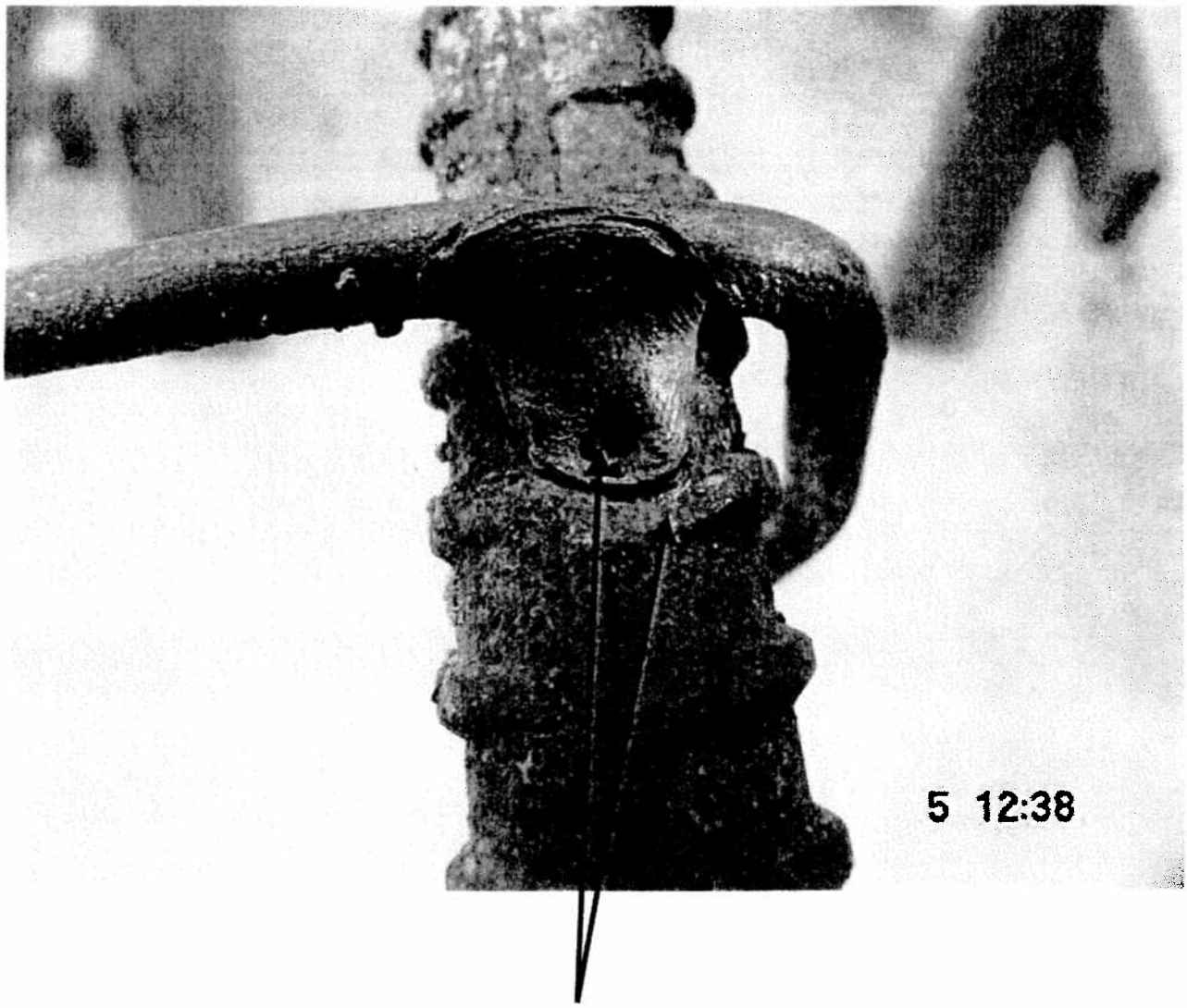

Specimen #7, Location 8 shows weld defects of Surface Porosity and undercut

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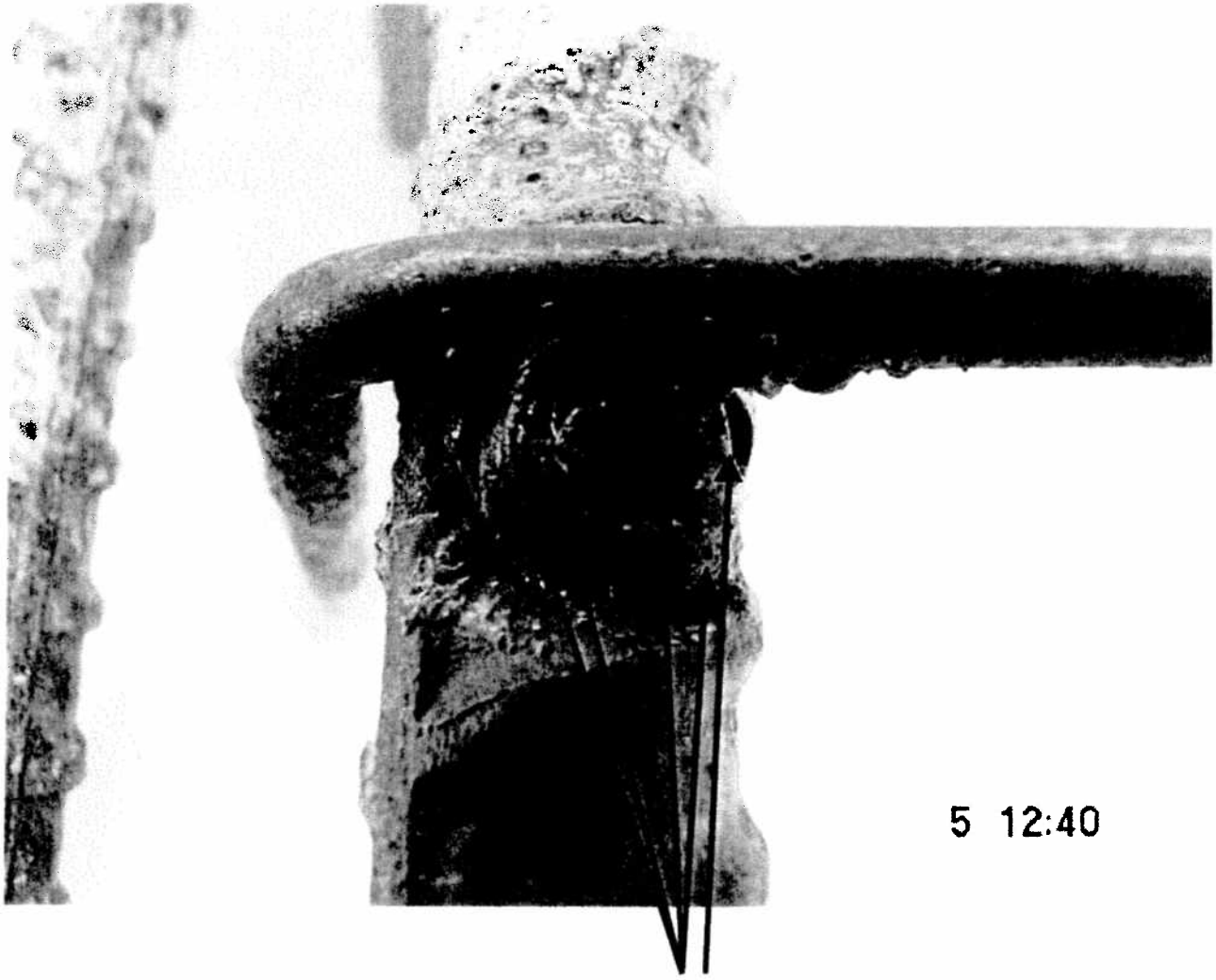

Specimen # 8 Location # 9 Surface porosity

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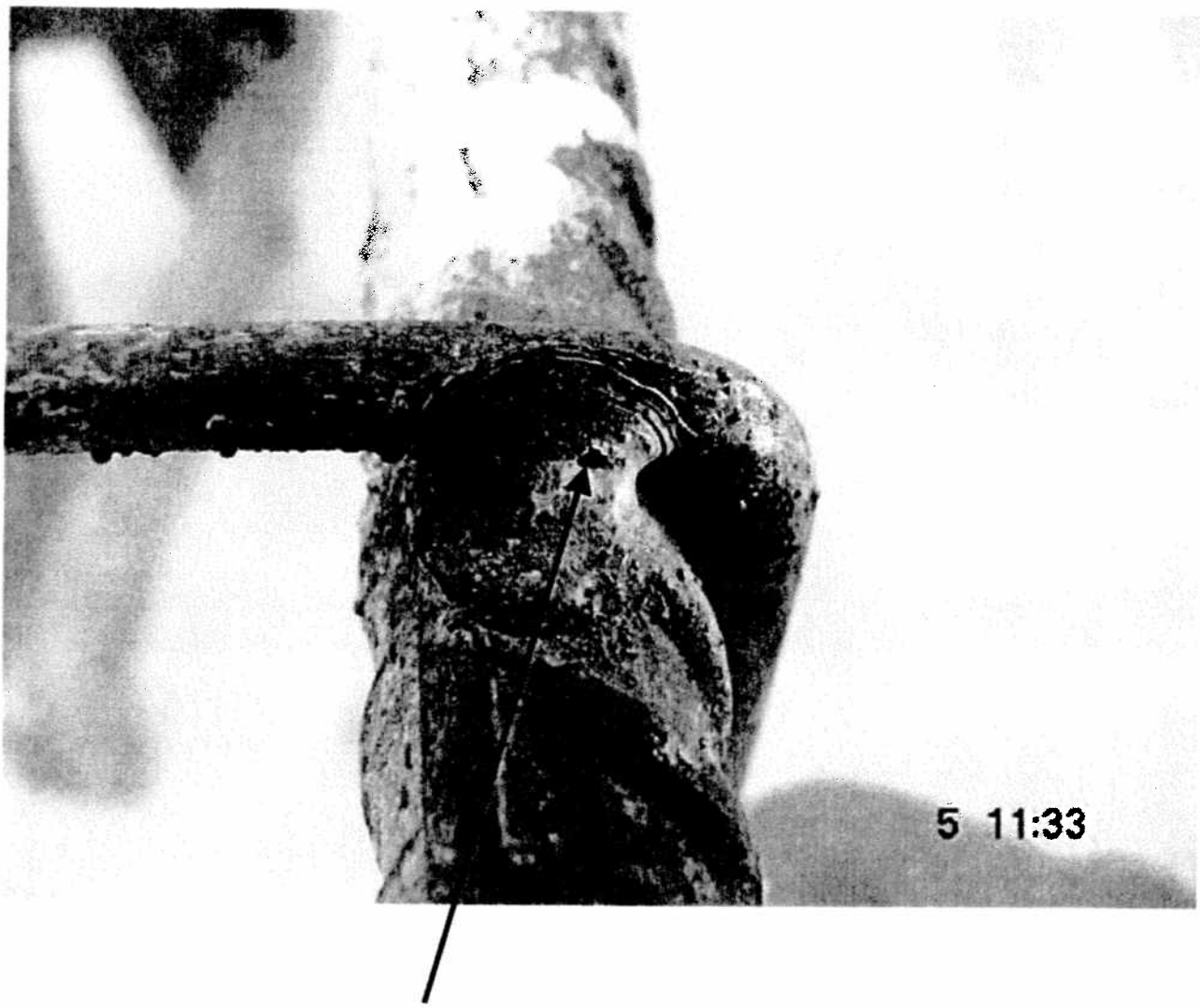

Specimen # 9 Location # 4 shows a pin hole and Undersized weld profile that is not visual acceptable in accordance with AWS D1.4

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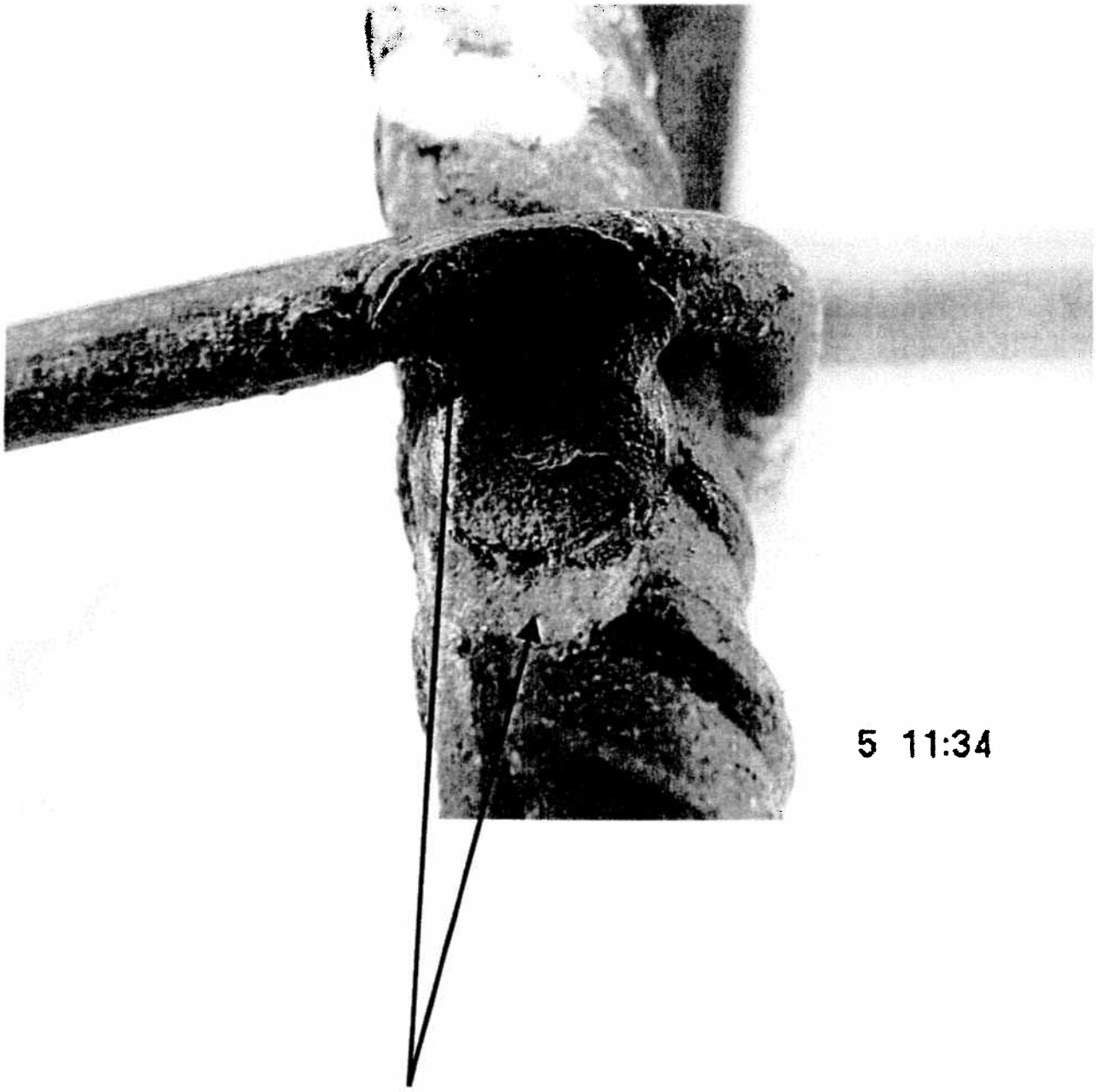

Specimen # 9, Location # 7 illustrates weld defect known as Undercut, and also Undersized weld profile in accordance with Figure 4.1 in AWS D1.4.

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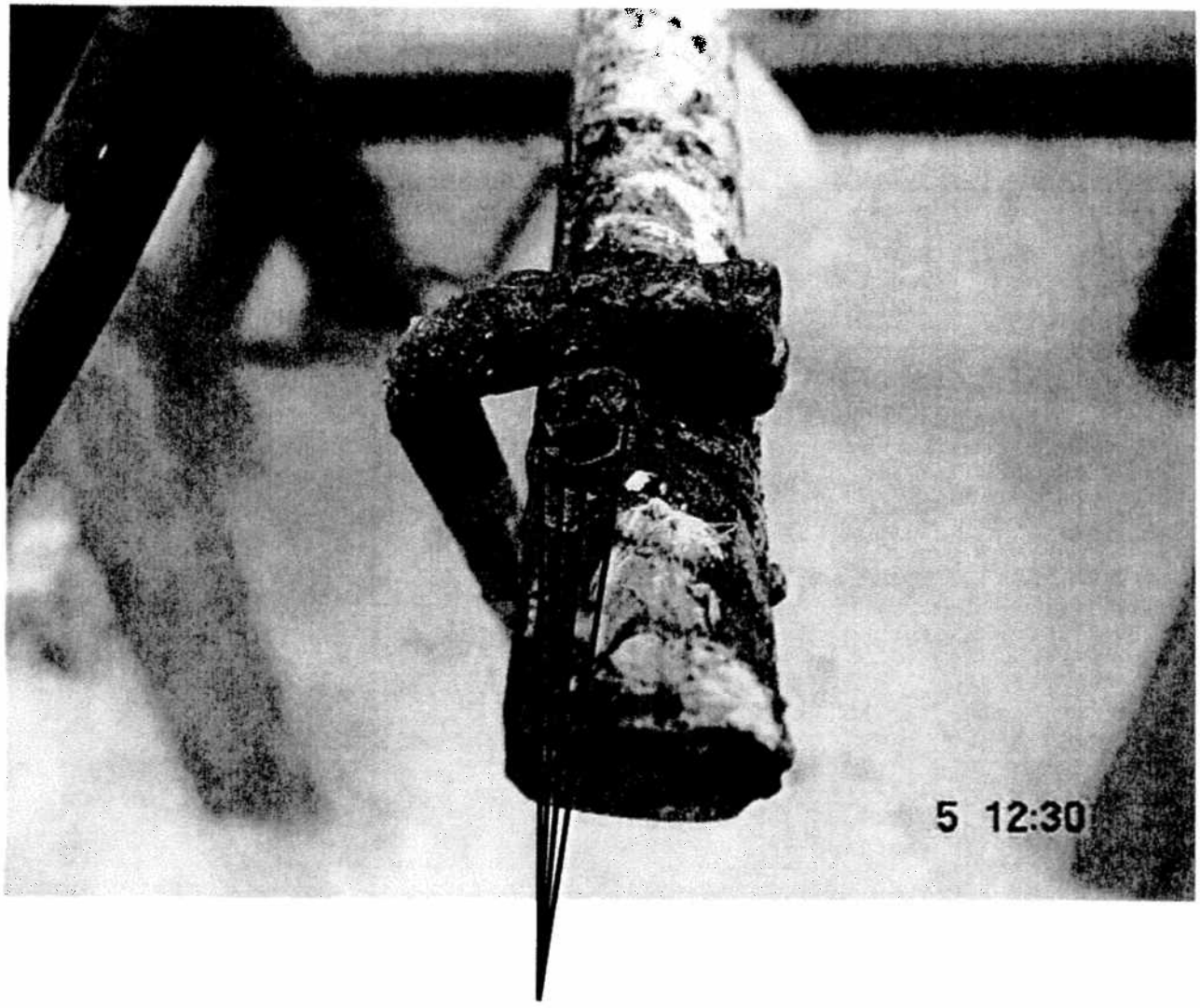
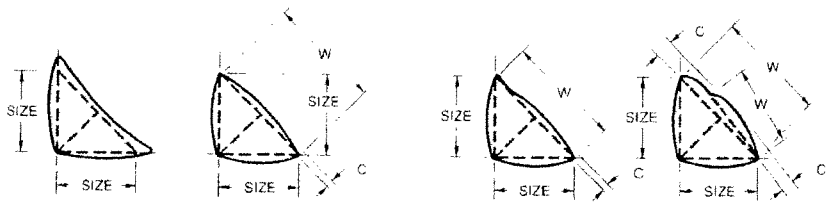


Specimen # 1, Location # 5 Surface Porosity, under sized weld and undercut

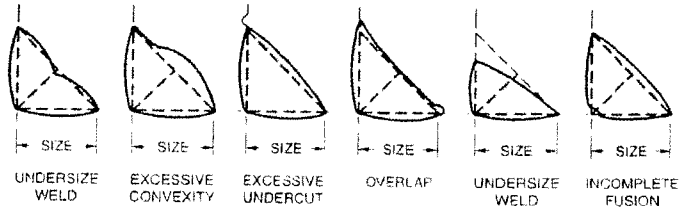


(A) DESIRABLE FILLET WELD PROFILES

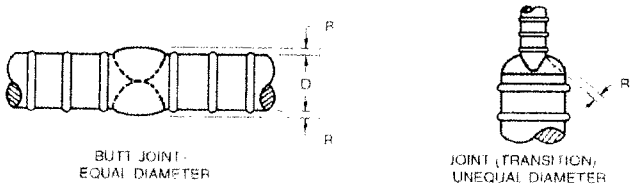
(B) ACCEPTABLE FILLET WELD PROFILES

Note: Convexity C of a weld or individual surface bead with dimension W shall not exceed the value of the following table

WIDTH OF WELD FACE OR INDIVIDUAL SURFACE BEAD W	MAX CONVEXITY C
W ≤ 5/16 in [8 mm]	1/16 in [2 mm]
W > 5/16 in [8 mm] TO W ≤ 1 in [25 mm]	1/8 in [3 mm]
W ≥ 1 in [25 mm]	3/16 in [5 mm]

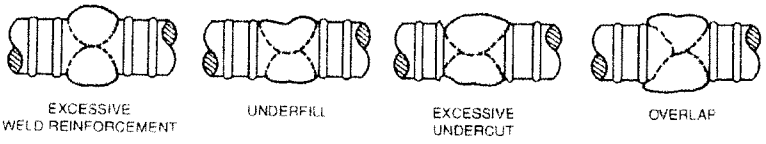


(C) UNACCEPTABLE FILLET WELD PROFILES



Note: Reinforcement R shall not exceed 1/8 in [3 mm]

(D) ACCEPTABLE GROOVE WELD PROFILE IN BUTT JOINT



(E) UNACCEPTABLE GROOVE WELD PROFILES IN BUTT JOINTS

Figure 4.1—Acceptable and Unacceptable Weld Profiles (see 4.4.1)