



ARC BURN REPAIR PROCEDURE

Grinding, Etch Verification, UT Wall Thickness and MT

Procedure No. PII-ABR-001 Revision 0

September 21, 2026

Prepared and Approved by:

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Reviewed and Approved for use by:

Authorized Contractor Representative

Authorized Owner/Operator Representative

	ARC BURN REPAIR PROCEDURE	No. PII-ABR-001 Rev. 0 Date: 09/21/2026 Page 2 of 15
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REVISION LOG

Rev	Date	Description	Approved
0	09/22/2026	Initial issue. Supersedes PII "Macroetching Testing Using Ammonium Persulfate."	

CONTENTS

- 1.0 SCOPE
- 2.0 REFERENCES
- 3.0 DEFINITIONS
- 4.0 RESPONSIBILITIES AND PERSONNEL
- 5.0 SAFETY
- 6.0 EQUIPMENT AND MATERIALS
- 7.0 EQUIPMENT CHECKS
- 8.0 BEFORE STARTING WORK
- 9.0 ARC BURN REMOVAL
- 10.0 FINAL EXAMINATION
- 11.0 ACCEPTANCE CRITERIA
- 12.0 REPAIRS NOT MEETING ACCEPTANCE
- 13.0 REPORTING
- 14.0 ATTACHMENTS
- Attachments 1 - 3



ARC BURN REPAIR PROCEDURE

No. PII-ABR-001 Rev. 0
Date: 09/21/2026
Page 3 of 15

1.0 SCOPE

- 1.1 This procedure covers the removal of arc burns by grinding, verification of removal by chemical etching, measurement of remaining wall thickness by ultrasonic thickness testing (UTT), measurement of grind depth, and magnetic particle (MT) examination of the repaired area.
- 1.2 It applies to carbon and low alloy steel line pipe on new construction, before the line is placed in service, for pipelines subject to 49 CFR Part 192 or Part 195 and welded to API 1104.
- 1.3 Fittings, facility piping and work under ASME B31.3, B31.4 or B31.8 are covered only when a job instruction approved by the PII NDT Level III lists the governing code and edition and the minimum wall thickness basis for each component type (see 11.2.e).
- 1.4 This procedure does not apply to:
 - a. Pipelines or piping in service.
 - b. Stainless steel or other non-magnetic materials.
 - c. Repair of arc burns by welding.
 - d. Arc burns in or next to a dent, crack, gouge, lamination or other damage. These are referred to the owner's engineering group before any work (see 9.3).
- 1.5 Where a client specification is more restrictive than this procedure, the client specification governs. No client specification or deviation can waive an applicable 49 CFR requirement (see 12.3).
- 1.6 This procedure supersedes the PII procedure "Macroetching Testing Using Ammonium Persulfate."

2.0 REFERENCES

The following documents are referenced at the edition or revision shown. Where no edition is shown, the Level III shall enter the edition in effect on the date of issue before this procedure is issued. The PII Level III shall confirm each item against the controlled master before this procedure is issued.

49 CFR 192.309	Repair of steel pipe
49 CFR 195.226	Welding: Arc burns
API Std 1104, 21st Ed.	Welding of Pipelines and Related Facilities (incl. Errata 1-5, Addenda 1-2)
ASME BPVC Section V, 2025	Article 7 (MT), Article 23 SE-797 (UT thickness)
ASTM E797/E797M	Measuring Thickness by Manual Ultrasonic Pulse-Echo Contact Method
ASTM E340	Macroetching Metals and Alloys
ASTM E709	Magnetic Particle Testing
ASNT SNT-TC-1A, 2024	Personnel Qualification and Certification in NDT
PII-WP-1, Rev 02	PII Written Practice
PII-UTT-04, Rev __	PII Ultrasonic Thickness Testing Procedure
PII-MT-04, Rev __	PII Magnetic Particle Examination Procedure
API 5L (or purchase spec)	Pipe wall tolerance, edition shown on the MTR
Job instruction	Code, edition and component wall basis for work under 1.3

	ARC BURN REPAIR PROCEDURE	No. PII-ABR-001 Rev. 0 Date: 09/21/2026 Page 4 of 15
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3.0 DEFINITIONS

- 3.1 **Arc burn** - A localized area of remelted or heat-affected metal, or a change in surface profile, caused by an unintended electric arc. Arc burns contain hard, brittle metal and may contain cracks.
- 3.2 **NWT** - Nominal wall thickness.
- 3.3 **Spec Min WT** - The minimum wall thickness allowed by the tolerances of the specification the pipe was made to (NWT less the mill under-tolerance for that pipe size and type in the specification edition shown on the MTR).
- 3.4 **MAWT** - Minimum acceptable wall thickness. The least remaining wall permitted for the repair, determined per 11.2 before grinding. It does not depend on field readings.
- 3.5 **Baseline WT** - The lowest of four UT readings on sound pipe next to the arc burn, taken before grinding. It is used to monitor grinding and to estimate grind depth.
- 3.6 **RWT** - Remaining wall thickness. The lowest valid UT reading in the ground area after final grinding.
- 3.7 **Measured grind depth** - The deepest point of the ground area measured with a depth gauge whose base rests on the original, unground pipe surface on both sides of the repair (10.4).
- 3.8 **UT depth estimate** - Baseline WT minus RWT. This is an estimate only, because the wall under the arc burn may differ from the nearby readings.
- 3.9 **Grind depth** - The greater of the measured grind depth and the UT depth estimate. This value is compared to any client grind depth limit.
- 3.10 **Hold point** - A step where work stops until the named person releases it and the release is recorded on the report.

4.0 RESPONSIBILITIES AND PERSONNEL

- 4.1 The PII NDT Level III is responsible for this procedure and its revisions, approves job instructions under 1.3, approves the etchant set-up (7.2), and resolves questions of interpretation.
- 4.2 The owner's engineering group is responsible for engineering decisions, including the design wall thickness alternative in 11.2.b and the disposition of arc burns with interacting damage. PII does not make these decisions.
- 4.3 The PII Project Manager obtains the pipe data, MTRs, governing requirements and client limits before the job starts.
- 4.4 The construction contractor performs grinding and blending unless PII is contracted to do it.
- 4.5 UT and MT personnel shall be certified Level II or Level III in the method in accordance with PII-WP-1 (SNT-TC-1A). A Level I may take readings under the direct supervision of a Level II but shall not evaluate or accept results.
- 4.6 Etching is not an NDT method under SNT-TC-1A, and UT or MT certification alone does not qualify a person to etch. Etch operators shall complete PII training and a practical demonstration on a coupon with a fresh arc strike and a grinder-burned area, evaluated by a person authorized in writing by the PII Level III. The record is kept on Form PII-ABR-001-F3. Training is repeated every three years or after 12 months without doing the work.
- 4.7 The client representative releases Hold Point 1 (9.7) and accepts the final disposition when the client requires it.



5.0 SAFETY

- 5.1 Work shall follow the client safety program, the site safety plan, and a job safety analysis (JSA) reviewed with the crew.
- 5.2 Grinding requires a guarded grinder, safety glasses and face shield, hearing protection and gloves. Obtain a hot work permit and gas test where required.
- 5.3 Do not enter an excavation that has not been inspected and protected in accordance with 29 CFR 1926 Subpart P.
- 5.4 Only the etchant products approved in 6.2 shall be used. Handling, PPE, containers and closure, ventilation, storage and disposal shall follow the SDS and the manufacturer's instructions for that specific product. The SDS shall be on site and an eyewash shall be at the work location.
- 5.5 Ammonium persulfate is an oxidizer and can cause skin and breathing sensitization. Keep it away from combustible materials and avoid breathing the dust when mixing.
- 5.6 Nital shall not be mixed in the field. Where nital is approved, only the commercially prepared product named in the job instruction shall be used, handled per its SDS and manufacturer instructions.
- 5.7 Collect rinse water and spent etchant and dispose of them in accordance with the SDS and site requirements.

6.0 EQUIPMENT AND MATERIALS

- 6.1 Grinder with flap discs; emery cloth or abrasive paper to 200 grit or finer.
- 6.2 Etchant: ammonium persulfate, 10% by weight in clean water (10 grams of reagent-grade ammonium persulfate dissolved in 90 mL of water). Other concentrations, or a commercially prepared nital, may be used only when approved by the PII Level III per 7.2 and permitted by the client and site safety plan.
- 6.3 Plastic applicator bottles labeled with contents, concentration, batch number, mix date and time, and who mixed it. Cotton swabs, clean rinse water, solvent cleaner and clean rags.
- 6.4 Test coupon: scrap carbon steel pipe of a grade and wall similar to the job pipe, with an unaffected area, a grinder-burned area, and space to strike fresh arcs. An arc welding machine or other arc source is required to strike fresh arcs; the hot work controls in 5.2 apply.
- 6.5 UT thickness gauge with A-scan or waveform display and minimum (scan) mode, calibrated within the last 12 months. Dual element transducer small enough to sit flat in the ground area. Carbon steel step block covering the thickness range. Couplant that can be fully removed before coating.
- 6.6 Depth (pit) gauge reading to 0.001 in with a base long enough to span the ground area and rest on unground pipe surface on both sides. Steel rule, surface thermometer, paint marker and camera.
- 6.7 AC yoke and MT materials in accordance with PII-MT-04.

7.0 EQUIPMENT CHECKS

- 7.1 UT - Calibrate and verify in accordance with PII-UTT-04, including its verification tolerance. As a minimum, calibrate on two steps, one at or below the MAWT and one at or above the maximum expected wall thickness (NWT plus the mill over-tolerance), and verify at the start of the shift, every 4 hours, after changing the probe, cable, battery or operator, and at the end of the shift. If a verification fails, all readings since the last good check are void and shall be retaken.

	ARC BURN REPAIR PROCEDURE	No. PII-ABR-001 Rev. 0 Date: 09/21/2026 Page 6 of 15
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- 7.2 Etchant set-up - Before first use on a job, the etchant, concentration, reaction time and surface temperature range shall be demonstrated on the test coupon: a fresh arc strike must show a clear dark indication and the unaffected area must show none. The PII Level III approves the set-up and it is recorded in the header of Form PII-ABR-001-F2.
- 7.3 Etchant check - At the start of each shift and each time a new batch is mixed, re-sand the coupon to 200 grit to remove previous etching, strike a fresh arc, and etch using the approved set-up. A clear dark indication must appear at the fresh strike and none on the unaffected area. If not, discard the batch. Ammonium persulfate solution weakens with age; mix fresh at least daily. Record on Form PII-ABR-001-F2.
- 7.4 MT - Check the yoke lifting power, lighting and particles in accordance with PII-MT-04.

8.0 BEFORE STARTING WORK

- 8.1 Obtain and record on the report: pipe OD, NWT, grade, pipe specification and edition (from the MTR), mill under-tolerance, governing regulation, pipe operating stress level (percent SMYS) as provided by the owner, client specification and any client grind depth limit.
- 8.2 Determine the MAWT and its basis per 11.2 and record both on the report. Where the design wall thickness alternative is used, record the owner engineering document number.

9.0 ARC BURN REMOVAL

- 9.1 **Identification.** Arc burns are found during visual examination or other NDT. Mill marks, stencil marks, scale and earlier grinding can look like arc burns. If unsure, lightly sand the spot and etch it (9.11). A sharp-edged dark indication that remains after a second light sanding and etch is treated as an arc burn. If the result is still unclear, treat it as an arc burn and notify the UT Level II.
- 9.2 Photograph the arc burn with a scale in the picture.
- 9.3 **Screening.** Stop and refer to the owner's engineering group, through the client representative, if the arc burn is in or next to a dent, crack, gouge, groove, lamination or other damage. On gas pipe to operate at 20% SMYS or more, a dent containing an arc burn must be removed under 49 CFR 192.309(b), unless it is repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe (an owner engineering decision); grinding out the arc burn alone does not correct it. Record the screening result on the report.
- 9.4 **Marking.** Mark the location with two straight lines that cross at the arc burn and extend well past the area to be ground (Figure 1). Extend the lines as needed during the repair so the location is not lost.

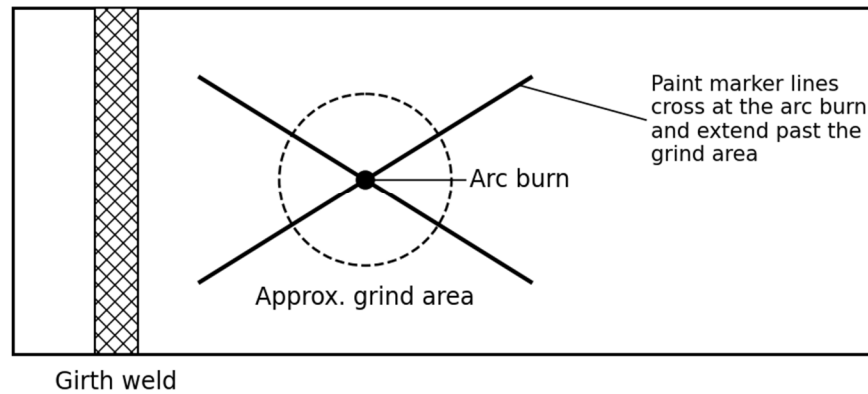


Figure 1 - Marking the Arc Burn

- 9.5 **Location.** Record the weld number, station, distance from the weld toe, clock position looking downstream, and approximate size (Figure 2).

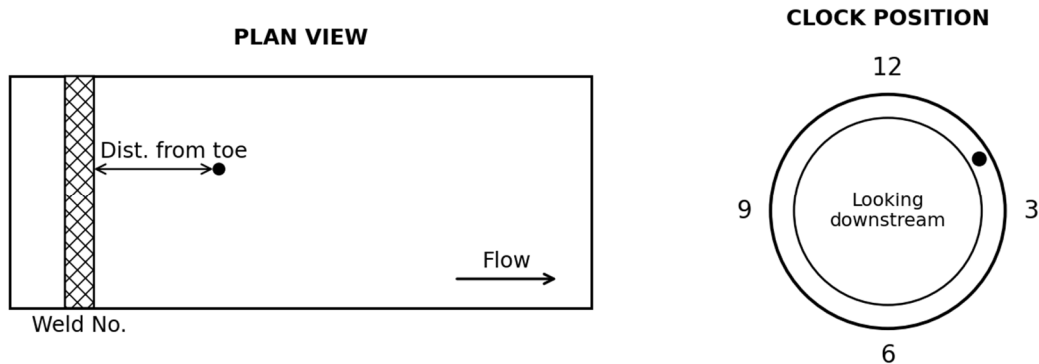


Figure 2 - Recording the Location

- 9.6 **Baseline WT.** Before any grinding, including weld cap grinding, take four readings on sound pipe about 1 in outside the planned grind area, 90 degrees apart and clear of the weld (Figure 3). Where the arc burn is next to a girth weld and a reading position falls on the weld, take that reading on the pipe on the far side of the weld, about 1 in from the weld toe, and note the position on the report. Record all four. The lowest reading is the Baseline WT. If any reading is below the MAWT or indicates a lamination, stop and notify the Level III and the client.

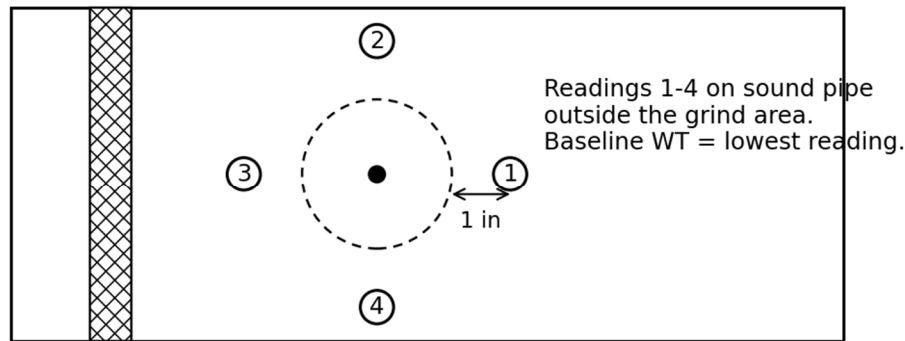


Figure 3 - Baseline Readings

- 9.7 **Hold Point 1.** Grinding shall not start until the MAWT and its basis, the screening result and the baseline readings are recorded, and the client representative has released the hold point. Record the name of the person releasing, the date and the time on the report. Where the client does not require release, the PII UT Level II releases the hold point after checking these entries.
- 9.8 **Arc burns next to a girth weld.** First try a smaller probe or readings taken from the pipe side of the arc burn. Grind the weld cap only if the probe still cannot seat, and only with client approval. The following apply:
- Grind only the length needed to seat the probe, measured along the weld and centered on the arc burn, and not more than 2 in beyond each side of the arc burn unless the client approves more.
 - Do not grind the weld below the adjacent pipe surface, and do not grind into the pipe base metal beyond the arc burn repair area.
 - After grinding, perform VT and MT of the ground weld area. Acceptance is per API 1104 and the project specification.
 - Where the project specification requires reinforcement to be restored, or where any welding is done on the weld after it has been examined, the work is a weld repair and shall be done to a client-approved repair procedure and re-examined.
- 9.9 **Grinding.** Grind with light pressure and keep the grinder moving to avoid overheating the metal. Overheating causes grinder burn, which shows up in the etch. Leave a smooth, flat bottom that the UT probe can sit on. Remove metal in small amounts and check the wall with UT and the depth gauge after about every 0.010 in of grinding.
- 9.10 **Surface preparation.** Finish the ground area with emery cloth or abrasive paper to 200 grit or finer. Clean with solvent and let dry. The surface temperature shall be within the range approved in 7.2 and not over 122°F (50°C).
- 9.11 **Etching.** Apply the etchant with a swab over the whole ground area and about 1/4 in past it. Allow the reaction time approved in 7.2, rinse with clean water and dry. Read the result in good light (Figure 4):
- Dark spot or ring with a sharp edge - the arc burn is still present. Continue grinding.
 - Blotchy discoloration that follows the grind marks - possible grinder burn. Re-sand with light pressure and re-etch. If it remains, treat it as an arc burn.
 - Even, uniform color with no spot - the arc burn has been removed.

- d. Any result the etch operator cannot place in (a), (b) or (c) is referred to the UT Level II and treated as an arc burn until resolved.

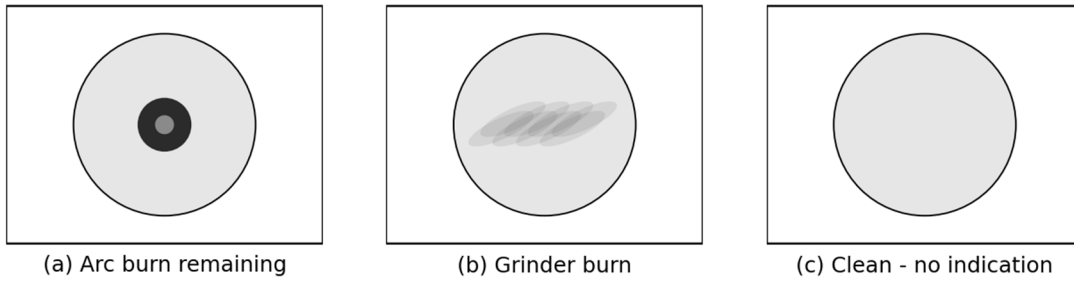


Figure 4 - Etch Results

- 9.12 Repeat 9.9 through 9.11 until the etch is clean. If the arc burn still shows when the wall is within 0.010 in of the MAWT, or the grind depth is within 0.010 in of the client limit, stop grinding and go to Section 12.0.
- 9.13 **Blending.** Blend the ground area smoothly into the pipe surface with no sharp edges or steps. The taper shall be at least 4 to 1 (length to depth) unless the client specifies otherwise (Figure 5). After blending, sand to 200 grit and etch the entire blended area once more. The final etch shall be clean.

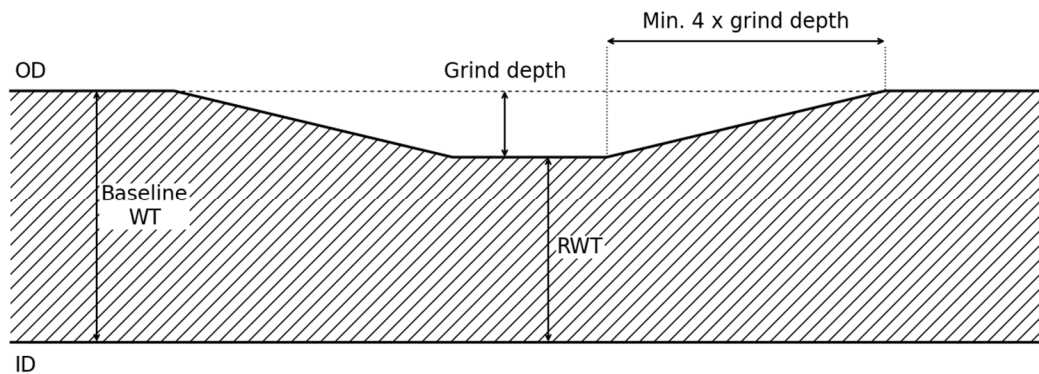


Figure 5 - Section Through a Blended Repair

10.0 FINAL EXAMINATION

- 10.1 **Remaining wall thickness.** Verify the UT calibration. Take a reading at the center of the ground area and at four points halfway to the edge, then scan the entire ground area in minimum mode (Figure 6). At the thinnest point, take readings with the transducer sound barrier parallel and perpendicular to the pipe axis and record the lower reading.

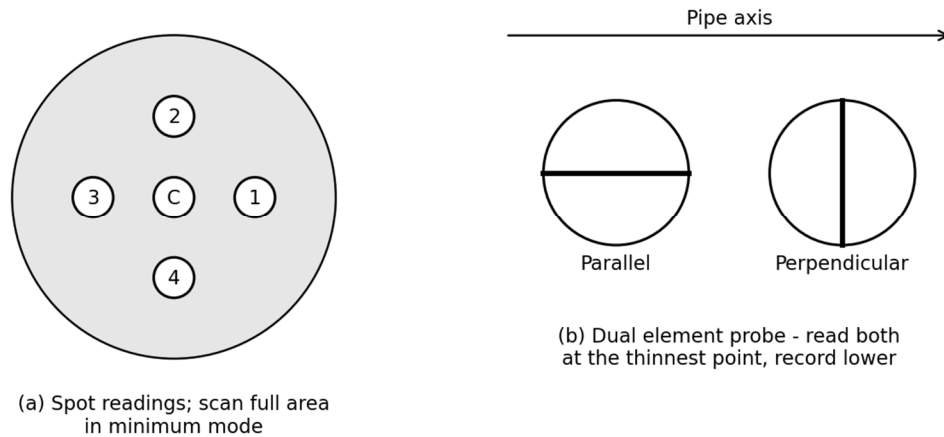


Figure 6 - Final UT Readings

- 10.2 Check each low reading on the A-scan. Do not record readings showing doubling, a weak or missing backwall, or an unsteady signal; clean the surface or reseal the probe and read again.
- 10.3 The RWT is the lowest valid reading. Readings shall not be averaged. If valid readings cannot be obtained over the whole ground area, the repair shall not be accepted; notify the PII Level III for an alternate technique or go to Section 12.0.
- 10.4 **Grind depth.** Measure the deepest point with the depth gauge, with the gauge base resting on unground pipe surface on both sides of the repair and laid along the pipe axis. Record the measured grind depth, the UT depth estimate (Baseline WT minus RWT), and the grind depth (the greater of the two). If the two differ by more than 0.010 in, find the cause (calibration, probe seating, gauge placement, local wall variation, lamination) and record it before accepting the repair.
- 10.5 **MT.** After the final etch has been rinsed and is dry, perform MT in accordance with PII-MT-04 using an AC yoke, at least two shots at about 90 degrees to each other with the yoke legs placed outside the coverage zone, covering the ground area plus 1 in all around (Figure 7). Add overlapping shots as needed so the full coverage zone is examined between the poles. Relevant indications are evaluated per PII-MT-04.

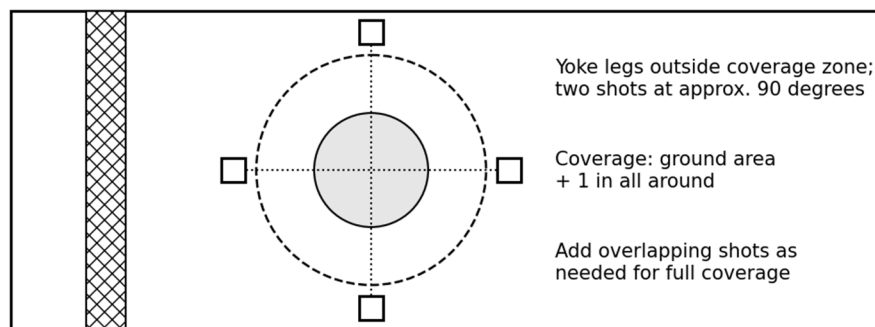


Figure 7 - MT Coverage

- 10.6 Clean off all couplant, etchant and MT residue so the area is ready for coating. Mark the repair as required by the client and photograph it.

- 10.7 **Hold Point 2:** The area shall not be coated, lowered in or backfilled until the report is signed by the UT and MT technicians and accepted by the client representative when required.

11.0 ACCEPTANCE CRITERIA

- 11.1 The repair is acceptable when all of the following are met:
- The final etch shows no indication over the blended area and 1/4 in beyond.
 - The RWT is equal to or greater than the MAWT.
 - Where the client limits grind depth, the grind depth (3.9) does not exceed the limit.
 - The area is smoothly blended with a taper of at least 4 to 1 and no notches or gouges.
 - MT shows no relevant indications.
- 11.2 **MAWT.** Determine the MAWT before grinding as follows:
- 49 CFR Part 195 - MAWT = Spec Min WT. If the notch cannot be removed by grinding without going below this value, the pipe shall be cut out as a cylinder (195.226(b)).
 - 49 CFR Part 192, pipe to operate at 40% SMYS or more - The arc burn shall be completely removed and the remaining wall shall be at least the Spec Min WT or the nominal wall thickness required for the design pressure (192.309(c)). MAWT = Spec Min WT, unless the owner's engineering group provides the design wall thickness and its basis in writing. PII records the owner document number; PII does not determine the design wall thickness.
 - 49 CFR Part 192, pipe to operate below 40% SMYS - 192.309(a) requires imperfections that impair serviceability to be repaired or removed. This procedure requires every arc burn to be completely removed. If a repair is made by grinding, the remaining wall shall be at least the Spec Min WT or the nominal wall thickness required for the design pressure (192.309(a)). MAWT = Spec Min WT, unless the owner's engineering group provides the design wall thickness and its basis in writing. PII records the owner document number; PII does not determine the design wall thickness.
 - Dents - A dent containing an arc burn is not dispositioned under this procedure (9.3; 192.309(b)).
 - Fittings and piping under 1.3 - MAWT is taken from the component standard or the owner's engineering group, as listed in the approved job instruction. The line pipe mill tolerance shall not be applied to fittings.
- 11.3 The mill under-tolerance shall be taken from the pipe specification edition shown on the MTR. Do not assume a percentage.
- 11.4 **Example** (values for illustration only): Part 192 pipe at more than 40% SMYS, NWT 0.500 in, 10% under-tolerance, so MAWT = Spec Min WT = 0.450 in. The client limits grind depth to 8% of NWT (0.040 in). Baseline WT is 0.508 in; final RWT is 0.476 in, so the UT depth estimate is 0.032 in. The depth gauge measures 0.035 in. Grind depth = 0.035 in (the greater). RWT 0.476 is not less than 0.450, grind depth 0.035 does not exceed 0.040, the etch is clean and MT shows no relevant indications. The repair is acceptable.

12.0 REPAIRS NOT MEETING ACCEPTANCE

- 12.1 An arc burn that cannot be removed within the limits of Section 11.0, or a repair that does not meet Section 11.0, shall be cut out as a cylinder (49 CFR 192.309(e), 49 CFR 195.226(b)).
- 12.2 Arc burns shall not be repaired by insert patching or pounding out (49 CFR 192.309(d)). For Part 195 work this is a requirement of this procedure; 195.226(b) requires cylinder removal of any notch that cannot be removed by grinding.

	ARC BURN REPAIR PROCEDURE	No. PII-ABR-001 Rev. 0 Date: 09/21/2026 Page 12 of 15
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- 12.3 **Deviations.** A client may relax a requirement that exists only in its own specification or in this procedure (for example, the client grind depth limit or the taper), in writing, before the repair is dispositioned. A client deviation cannot waive a 49 CFR requirement, including the MAWT in 11.2.a through 11.2.c and cylinder removal under 12.1. Any change to the steps of this procedure requires review by the PII Level III. Engineering decisions require written approval of the owner's engineering group.
- 12.4 Cracks or other relevant indications found by MT shall be reported to the client immediately for disposition.

13.0 REPORTING

- 13.1 Each arc burn repair shall be recorded on Form PII-ABR-001-F1, Arc Burn Repair Report (Attachment 1). The Word and Excel versions of the form are equivalent. If the client requires its own form, complete the client form and attach the PII report.
- 13.2 The report shall include the client, job number, weld number, station and a location sketch; pipe data, MAWT, MAWT basis and any owner engineering reference; the screening result; the Hold Point 1 release; etchant and batch; number of grind/etch cycles and final etch result; UT gauge, probe, step block and calibration check times; baseline and final readings, RWT, measured grind depth, UT depth estimate and grind depth; MT result; references to any separate UT or MT reports; disposition; and names, certification levels and signatures.
- 13.3 Etchant set-up and checks are recorded on Form PII-ABR-001-F2 (Attachment 2). UT calibration checks are recorded in accordance with PII-UTT-04.
- 13.4 Reports are turned in with the daily paperwork, sent to the client, and kept in the project file for the time required by the contract, but not less than 5 years.
- 13.5 Nonconformances such as a failed calibration, failed etchant check, lost location, missing pipe data or unresolved readings shall be written up on a PII Nonconformance Report, and the Project Manager and client notified the same day.

14.0 ATTACHMENTS

- 1 Form PII-ABR-001-F1, Arc Burn Repair Report
- 2 Form PII-ABR-001-F2, Etchant Set-Up and Check Log
- 3 Form PII-ABR-001-F3, Etch Operator Training and Qualification Record



ARC BURN REPAIR REPORT

Prime Inspections Inc. | 1621 Primewest Parkway, Katy, TX

Form PII-ABR-001-F1 Rev 0
Report No: _____

Client		Job No.		Date	
Project		Spread / MP		Procedure	PII-ABR-001 Rev 0
Weld No.		Station		Client Spec	
Regulation	☐ 49 CFR 192 ☐ 49 CFR 195 ☐ Other / Code & Ed.: _____			% SMYS	

OD (in)	NWT (in)	Grade	Pipe Spec / Ed.	Mill Under-tol.	Spec Min WT	MAWT (in)	Client Max Grind
MAWT Basis	☐ Spec Min WT ☐ Design WT, owner eng. ref. _____ ☐ Component / job instr. _____						

Screening	☐ No dent/crack/gouge/lam. ☐ Referred	Hold Pt. 1 Release	Name: _____ Date/Time: _____
Weld Cap Ground (9.8)	☐ No ☐ Yes Client approval: _____ Length: _____	Ground Weld VT / MT	☐ Acc ☐ Rej Rpt. Ref.: _____
Hold Pt. 2 Release (10.7)	Name: _____ Date/Time: _____	Client Acceptance	☐ Accepted ☐ Not required by client

Dist. from Toe		Clock Pos.		Size (L x W)		Photo Nos.	
Etchant / %		Batch		Coupon Check		Final Grit	
No. of Cycles		Temp °F		Final Etch	☐ Clean ☐ Indication		

UT Gauge/SN		Probe / SN		Step Block	
Couplant		Cal. Due		Cal. Checks	

UT READINGS (in)	1	2	3	4	Center	Scan Min	Parallel	Perp.
Baseline					Baseline WT (lowest):			
Final								

RWT (lowest final)		UT Depth Est.		Measured Depth		Grind Depth		% NWT
RWT ≥ MAWT	Y / N	Grind depth ≤ client limit		Y / N / NA	Diff. > 0.010 in explained			Y / NA

MT Yoke / SN		Particles		Taper	
MT Result	☐ No relevant indications ☐ Relevant indication (describe in remarks)			Other Rpt. Ref.	

LOCATION SKETCH (show weld, flow direction, arc burn, dimensions, clock position)

Remarks	
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DISPOSITION	☐ ACCEPT ☐ CUT OUT AS CYLINDER ☐ CLIENT DEVIATION (client req. only, 12.3) No. _____ ☐ REFERRED TO OWNER ENGINEERING (9.3, 12.4)
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	Name (print)	Cert. / Level	Signature	Date
UT Technician				
MT Technician				
Etch Operator				
Client Representative				



ETCHANT SET-UP AND CHECK LOG

Form PII-ABR-001-F2 Rev 0 | Job No. _____ Spread _____

APPROVED SET-UP (7.2)			
Etchant / product		Concentration	
Reaction time (s)		Surface temp range (°F)	
Coupon grade / WT		Demonstration date	
PII Level III approval		Signature / date	

Date	Batch No.	Mix Time	Mixed By	Coupon Re-sanded & Fresh Strike (Y/N)	Check Time	Dark at Strike / Clear Elsewhere (Y/N)	Discard Date	Initials

Check each batch at the start of each shift and when a new batch is mixed. Re-sand the coupon to 200 grit and strike a fresh arc before each check (PII-ABR-001, 7.3). If the fresh strike does not show dark, or the unaffected area shows dark, discard the batch.



ETCH OPERATOR TRAINING AND QUALIFICATION RECORD

Form PII-ABR-001-F3 Rev 0

Trainee		Employee No.	
Location		Date	

Topic	Completed	Trainer Initials / Date
Chemical hazards, SDS and PPE (ammonium persulfate, nital)	☐	
Mixing, labeling, storage and disposal	☐	
Surface prep: 200 grit finish, cleaning, temperature limits	☐	
Etchant check: re-sanding coupon, fresh arc strike, approved set-up	☐	
Reading results: arc burn / grinder burn / clean	☐	
Practical: correct call on fresh arc strike, grinder burn and unaffected areas	☐	
When to stop and refer an unclear result to the UT Level II	☐	

Evaluator (authorized by PII Level III)		Signature / Date	
Level III authorization ref.		Result	☐ Qualified ☐ Not qualified
Trainee Signature		Retrain Due	