

VII. Repair and Removal of Defects

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A. New Construction

1. Welds

Each weld that is unacceptable under API-1104, Section 9 shall be removed or repaired. In addition, all cracks shall be cut out and all external pinholes shall be repaired. Defects in the root and filler beads may be repaired with prior Company authorization. Defects in the cover pass may be repaired without prior Company authorization.

Each weld that is repaired must have the defect removed down to sound metal and the area to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. The **minimum weld deposit length is 2"** when making a repair. After repair, the area of the weld that was repaired must be inspected to ensure its acceptability.

Repairs must meet the minimum requirements of the original weld. **No further repairs shall be made in the repair.**

2. Arc Burns

No un-repaired arc burns shall be permitted in any line operating above 40% SMYS. All other arc burns should be reported to a Company representative who shall determine the appropriate course of action. The following procedure shall be followed for repairing and removing arc burns:

The metallurgical notch caused by an arc burn shall be removed by grinding provided that the remaining wall thickness is not reduced to less than 90% of the nominal wall thickness. After all visible evidence of the arc burn has been removed, the ground area shall be swabbed with a solution of 20% ammonium persulfate. A blackened spot is evidence of the metallurgical notch and indicates that additional grinding is required. All arc burns that cannot be repaired shall be removed as a cylinder and replaced with good pipe.

B. Existing Pipelines

Each arc burn on steel pipe to be operated at a pressure that produces a hoop stress of 40% or more, of SMYS must be repaired or remove. If it is feasible to take the segment out of service, damaged or defective welds shall be replaced or repaired in accordance with the applicable sections of this welding manual.

If it is *not* feasible to take the segment out of service, the weld may be repaired in accordance with applicable section of this welding manual while the pipe is in service if:

1. The weld is not leaking.
2. The operating pressure does not exceed 20 % SMYS.

3. Grinding of the defective area can be limited so that at least 1/8 (.125)" wall thickness in the pipe remains.

Weld repairs shall be tested in accordance with the applicable sections of this welding manual.

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