

Taking a Pit Depth Measurement

4515.1760

Measuring Corrosion on HP Pipe

| Step | Action |
|------|---|
| 1 | <p>Measure the maximum depth of corrosion by placing the pit depth gauge on the cleaned pipe surface such that it rests parallel on the original pipe surface. The pit depth gauge should be aligned parallel to the longitudinal axis of the pipe.</p> <p><i>NOTE:</i> If the length of the corroded area extends beyond the length of the pit depth gauge, place a straightedge along the length of the pipe and place the pit depth gauge on the straightedge to take a depth measurement. Measure the thickness of the straightedge. The difference between the depth measurement and the thickness of the straightedge is the pit depth.</p> |
| 2 | <p>For general corrosion, measure the longitudinal extent (L_m) of the corroded area using a ruler.</p> <p><i>NOTE:</i> The longitudinal extent is the measurement made parallel to the longitudinal axis of the pipe, from the outer edge of the corroded area at one end to the outer edge of the corroded area at the opposite end. See <i>Figure 1</i>.</p> |
| 3 | <p>For isolated or multiple pits, measure the diameter of the maximum pit using a scale or ruler and measure the maximum longitudinal distance between the pit centers.</p> |
| 4 | <p>If the maximum pit depth in a corroded area or pits exceeds 10% of the nominal pipe wall thickness, notify Engineering to determine the remaining strength and serviceability of the pipe and if the pipe requires remedial action in accordance with Operating Standard 2600.1900. See <i>Table 2</i>.</p> |
| 5 | <p>Record the inspection data on the EPCR. Record the maximum pit depth, longitudinal extent (L_m), and the position of corrosion for the maximum corroded area. See <i>Figure 2</i>. Record the maximum pit depth, diameter, and longitudinal distance between pit centers for each set of multiple pits.</p> |

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Table 2

10% Wall loss

| Nominal Pipe Size in Inches | Minimum Pit Depth Requiring Notification in Inches (mils) |
|-----------------------------|---|
| 1/2 | 0.011 (11) |
| 3/4 | 0.011 (11) |
| 1 | 0.013 (13) |
| 1-1/4 | 0.014 (14) |
| 1-1/2 | 0.015 (15) |
| 2 | 0.015 (15) |
| 2-1/2 | 0.015 (15) |
| 3 | 0.022 (22) |
| 4 | 0.014 (14) |
| 6 | 0.019 (19) |
| 8 | 0.019 (19) |
| 12 | 0.022 (22) |
| 16 | 0.028 (28) |
| 20 | 0.031 (31) |

Figure 1

Longitudinal extent of the corroded area

