API 1104 Ballot 4989 – Welding Procedures/Welder Qualification

Co-chairs: Luke Ludwig, Robert Lazor

Discussion Items

- Review of Comment Resolution Process & Rules
- Overview of 2\textsuperscript{nd} Ballot Draft Comments
- Comment Resolution Spreadsheet
- Development of Proposed Resolutions

Attendance:

- 63 Total
- Quorum established for Voting Members of Subcommittee
## Welding Procedures and Welder Qualification

<table>
<thead>
<tr>
<th>Comment Type</th>
<th>Welding Procedures/Welder Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial</td>
<td>29</td>
</tr>
<tr>
<td>Technical</td>
<td>23</td>
</tr>
<tr>
<td>General</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
</tr>
</tbody>
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Welding Procedures and Welder Qualification

All comments were reviewed and resolved
There were 3 items that were sent to Task Groups to provide final wording by 21 Feb 2020:

• Preheat and interpass temperature clarification – remove minimum interpass
• Revisions to Table 2, Filler Metal Groups
• Use of NDE for welding procedure qualifications in lieu of nick breaks
Welding Procedures and Welder Qualification

Preheat and interpass temperature maintenance

<table>
<thead>
<tr>
<th>Clause/Subclause</th>
<th>Comment</th>
<th>Proposed Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3.2.13</td>
<td>Interpass is by definition prior to a weld pass, thus preheat controls the minimum temperature of the base material prior to start of the pass.</td>
<td>Change second sentences to read, &quot;The maximum interpass temperature shall be specified.&quot;</td>
</tr>
</tbody>
</table>

Changes to be made to remove the requirement for a minimum interpass temperature
Revisions to Table 2, Welding Electrodes

Table 2 had been revised earlier to address newer consumables
  • AWS designations, i.e. E8045-P2
  • Moved sub-arc to Section 12

Table 2 will not be revised to include E8010-G, but rather Section 6 will include wording to address the electrode types for welder qualification

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<th>Proposed Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 2</td>
<td>Add E8010-G</td>
<td>Make change</td>
</tr>
</tbody>
</table>
Use of NDE for welding procedure qualifications in lieu of nick breaks

### Welding Procedures and Welder Qualification

#### Clause/Subclause | Comment | Proposed Change
--- | --- | ---
5.6.3.3 | Nick breaks are not required for repair or mechanized qualification welds. Provided the soundness of the weld is proven through NDT what is the technical reason for having nick break testing for procedure qualifications? | Nick break test are not required for procedure qualification butt welds, provided procedure welds are examined by radiography or automated ultrasonic testing (AUT) and are acceptable per section 9.

Nick break tests sample only a portion of the weld, whereas NDE samples the entire weld and ensures that the procedure will produce sound welds.

Welder performance testing will continue to require nick break tests.
Welding Procedures and Welder Qualification

Questions