

The Care of Low Hydrogen Electrodes and its Impact on Weld Quality

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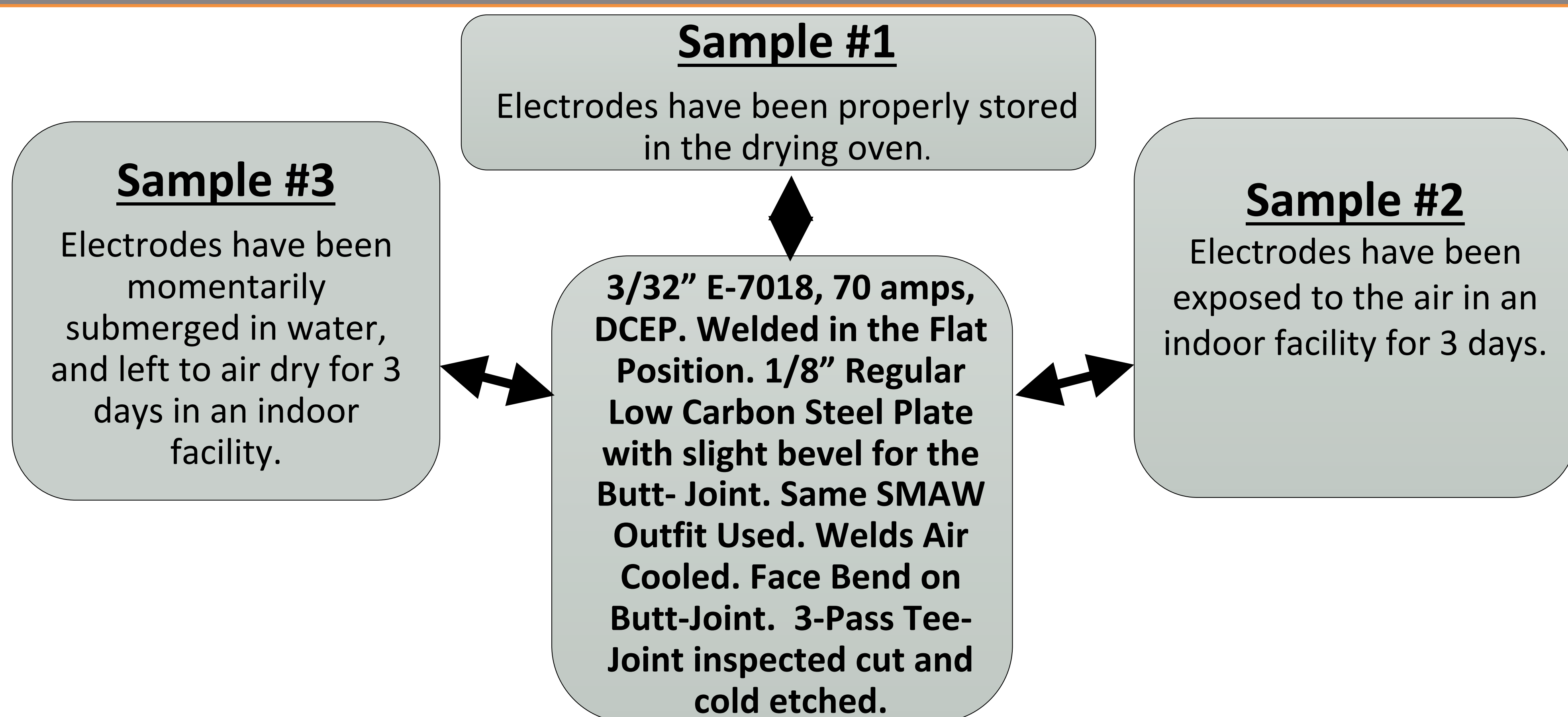
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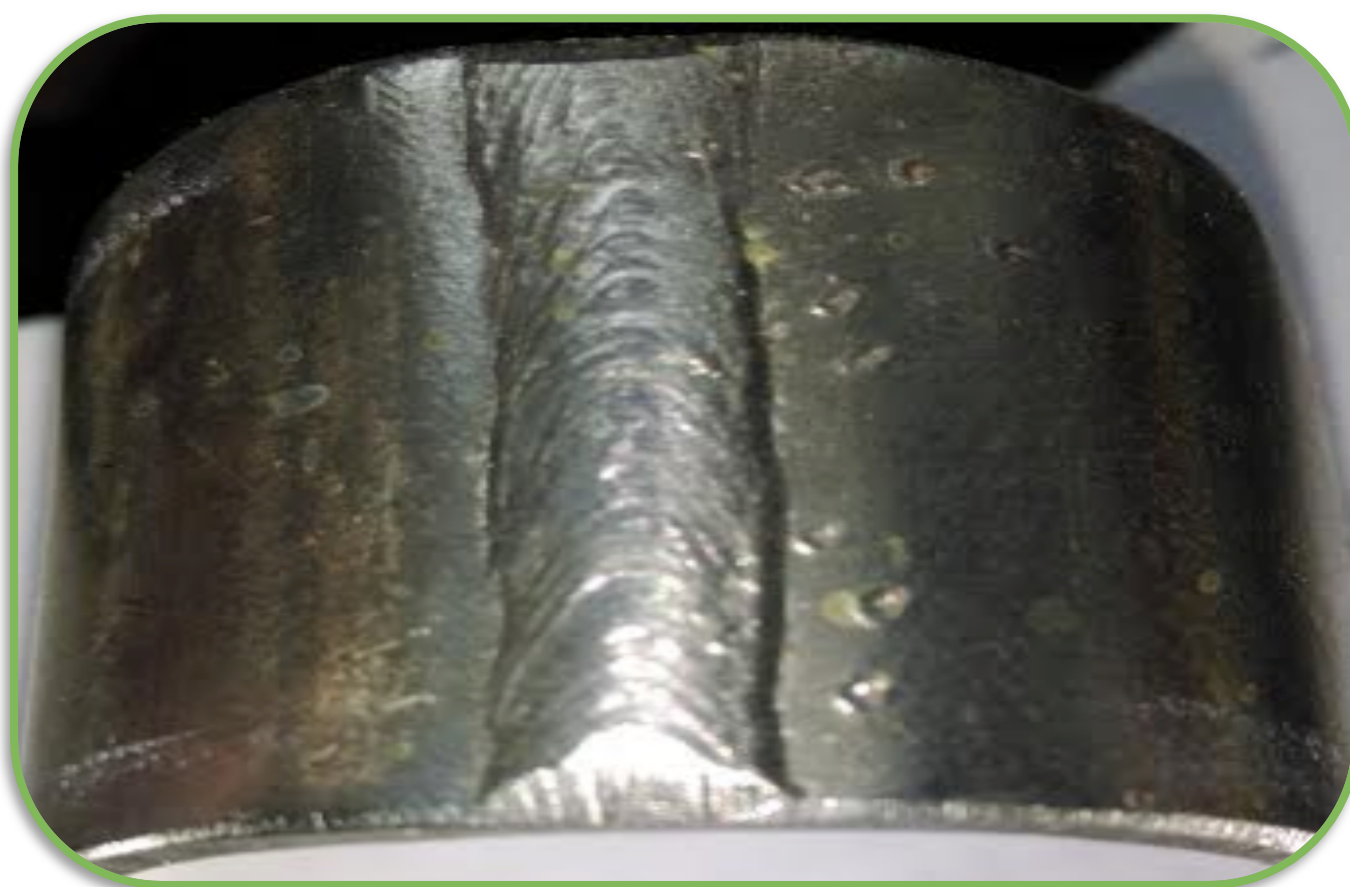
INTRODUCTION

- Many engineers are very particular with the storage and care of low hydrogen electrodes when they are to be used especially in critical parts, due specifically to the greater risk of weld defects. Therefore, the following presentation is designed to show the individual how the exposure of H₂O to low hydrogen SMAW electrodes such as the 7018, might weaken or affect the quality of the weld.

SPECIFICATIONS



RESULTS



(Sample #1) Face Bend.



(Sample #2) Face Bend.



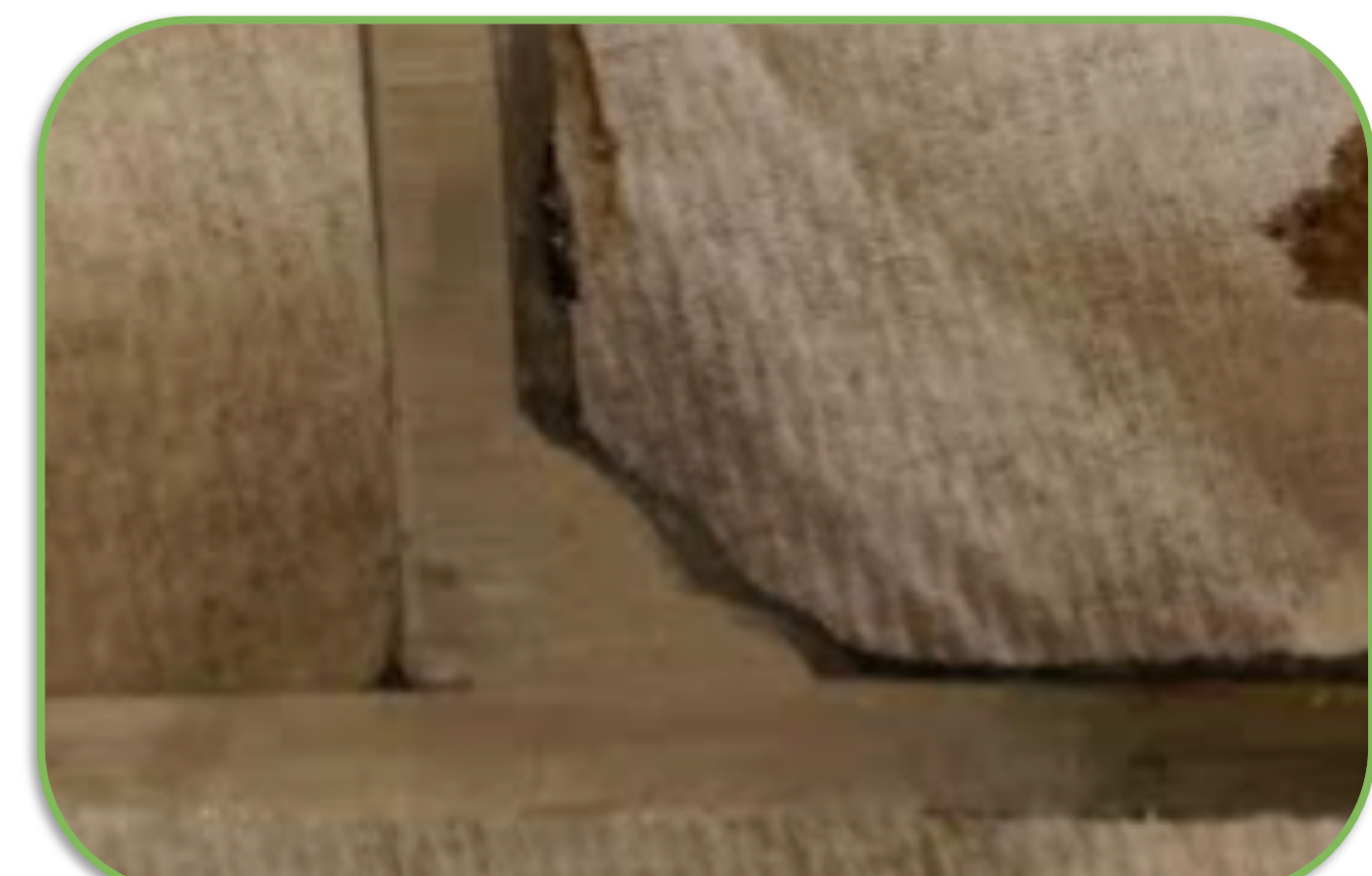
(Sample #3) Face Bend.



(Sample #1) 3-pass etched.



(Sample #2) 3-pass etched.



(Sample #3) 3-pass etched.

ANALYSIS AND CONCLUSION

- None of the face bends performed on the welded Butt-Joints showed any defects, however there were some slight discontinuities or imperfections in samples #2 and #3 with very minor undercut, (Deepest less than .4 mm in depth).
- None of the 3-Pass T-Joints etched and inspected showed any defects, however there were some discontinuities found from the visual inspection in the welds of Samples #2 and #3, they both had 5 porosity pores with no more than 2 pores for each five inch weld pass and less than 1 mm in length per a pore.
- To conclude, it is shown that there is at least a slight relation between the storage of low hydrogen electrodes and weld quality, due to the test results that show an increase in porosity with the electrodes that were not properly stored.