**Description of incident *(No company names or site locations)***

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| "Weld-on" hoist rings were procured to fabricate a beam to support a lifting operation. Hoist rings were welded to beams, Mag Particle Inspection was conducted with no relevant indications, and a testing arrangement was drawn up. Appropriate load per hoist ring was determined, test set-up was verified against the testing arrangement and confirmed, and load was applied using hydraulic cylinders and compression load cells. 1st hoist ring test was a success with test load achieved. 2nd hoist ring separated from beam at weld below working load limit. 3rd hoist ring also separated from beam at weld below working load limit. Luckily, the testing arrangement called for safety measures that prevented a catastrophic failure. |

**Contributing Factors/Cause(s) *(if any)***

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| Multiple hoist ring manufacturers were contacted and considered prior to procurement of materials, leading to multiple sets of technical data specification sheets, material data sheets, and welding instructions being associated with the job file. |

**Root Cause(s)**

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| Hoist ring material (steel specification) was not verified, leading to an incorrect welding procedure being employed and a lack of adhesion on dissimilar materials (types of steel). |

**Other Potential Causes *(if any)***

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| Successful post-welding Mag Particle Inspection gave a "false confidence" that all would be ok, since it returned with no relevant indications. The "successful" proof load test of the first hoist ring also built confidence that testing would be successfully completed without failure. |

**Corrective Actions or Recurrence Controls**

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| Segregate relevant data books, mill certifications etc. so critical information is not lost or confused throughout the manufacturing process. Meet with all personnel involved in the process (from procurement, engineering, QA, and welder) to develop a procedure for a multi-tiered approval process before fabrication commences. |

**Lessons Learned**

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| Proof testing is the final life line between concept and execution. If you're using custom fabricated below the hook equipment, ALWAYS ensure proper testing is employed prior to use in the field. There were several "false positives" throughout the process that would lead the casual observer to believe that this lifting device would perform as designed in the field. |

**Photos or Sketches**

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