



SAND2010-3672P



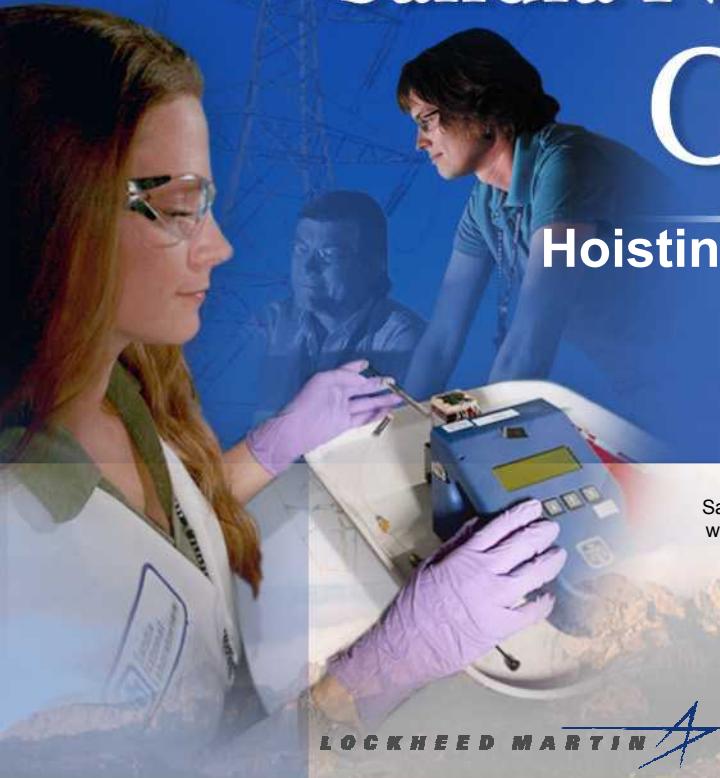
Sandia National Laboratories Overview

Hoisting and Rigging Suspect Parts

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Sandia National Laboratories is a multi-program laboratory operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



LOCKHEED MARTIN 



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SNL Statistics

- 8000 employees
- 847 Buildings
- 8,862 Acres
- 282 Operational Overhead Cranes and Hoists
- 502 Overhead Crane Operators
- 85 QREIs (Qualified Rigging Equipment Inspectors)



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Definition of "Suspect"

- **DOE ORDER 414.1C**
- **Suspect/Counterfeit Items (S/CIs).** An item is suspect when inspection or testing indicates that it may not conform to **established Government or industry-accepted specifications or national consensus standards...**



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History of Suspect Rigging at SNL

- 100s of Legacy Suspect Rigging
- 19 ORPs Reports in Past 3 Years
- Removal of Rigging Equipment based on:
 - No traceability
 - Examples of Suspect Markings: China, Korea, Germany, Holland, Japan, Taiwan, Italy and USA
 - No evidence of compliance with a manufacturing standard: ANSI/ASME



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“USA” Suspect Rigging



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“Korea / Germany” Suspect Rigging



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Can We Trust the Manufacturer's WLL Values on Sling Assemblies ID Tag?

- Foreign Manufactured Hardware? (No Traceability Marked With: Italy, Korea, China, etc.)
- Unable to Verify WLLs, Safety Factors
- No Evidence of Compliance with ANSI/ASME Standards



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Traceability Ensures

- **Hardware WLL Verification**
- **Design / Safety Factors**
- **Compliance with Known, Established Standards**



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SNL Sling Assemblies with Suspect Hardware



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More Suspect Hardware on Sling Assemblies



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Trust the Sling Manufacturer? Note: “CHINA” Marking on Hook



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Multi-Leg Sling with Foreign Manufacturer Hardware (PEWAG)



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Pewag

- PW “Marking” Traceable to Foreign Manufacturer - PEWAG (Austria)
 - Pewag literature indicates master links 4/1 safety factor.
- Immediately “Suspect” Item Not - 5/1 Design Factor (B30.26)



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Liftex

- **Greg Cain, Liftex Operations Manager (713-863-0900)**
 - He says that PEWAG uses “metric tons” for the rating of their components.
 - He states that Liftex divides the “metric tons” by 5 to get the WLL and 5/1 safety factor.
 - Recommends making sure our purchase requisitions are accurate and by stating we want domestic suppliers of hardware.



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“Slings” B30.9-2003

■ 9-5.2.4 Components

- (a) Fittings shall be manufactured to ensure that the rated load shall be at least the same as the synthetic webbing sling.
- (b) Fittings shall have sufficient strength to sustain twice the rated load of the sling without visible permanent deformation.
- (c) All surfaces of fittings shall be cleanly finished and sharp edges removed.
- (d) Hook characteristics shall meet the requirements of ASME B30.10.



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“Slings” B30.9-2006

- (f) Slings incorporating aluminum fittings shall not be used where fumes, vapors, sprays, mists, or liquids of alkalis or acids are present.
- (g) Thimbles shall have a minimum diameter at the bearing surface of at least two times the rope diameter.
- (h) Hooks, when employed, shall meet the requirements of ASME B30.10.
- (i) Rigging hardware, when employed, shall meet the requirements of ASME B30.26.



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“Rigging Hardware” B30.26-2004

- B30.26-4.2 Design Factor
- The Design Factor for Links, Rings, and Swivels Shall Be a **Minimum of 5**.



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PEWAG - Confusion?

- **Compliance with Established Government or Industry-Accepted Specifications or National Consensus Standards?**
 - To: Ron Fricilone (PEWAG) (North American Sales Manager) Thank you for the information. Do you have any written certifications in your catalog or other places that say the PEWAG products, specifically master links, are in compliance with ASME B30.26 standards?
 - Answer “No, we do not list ASME in any publication. If you compare ASME/ANSI/ASTM/NACM they virtually mirror each other.”
- **From PEWAG Catalog:**
 - ISO 9001 Compliant
 - Meets or Exceeds All International Standards Such As EN Standards, US NACM ASTM or ANSI



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