



# Safety Alert

From the International Association of Drilling Contractors

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ALERT 10 – 25

## WELDING ON A TRUCK TIRE RIM RESULTS IN A SERIOUS INCIDENT

### WHAT HAPPENED:

A truck rim had a hairline crack and the maintenance personnel decided to repair it by welding. After welding on the rim, a new tire was mounted to the rim and pressured to 20 to 40 psi to test the weld. Leaks were found on the hub weld so the person in charge decided to weld the leaking areas from the hub side while pressure was inside the tire. A few minutes after the welds were completed a violent release of energy from the tire launched it from the floor of the shop to the roof. The incident occurred inside a transport maintenance workshop where support and maintenance activities were being performed. The explosion resulted in two (2) fatalities and two (2) injured persons among the (8) people that were in the workshop at the time, and 3 others who were nearby.

### WHAT CAUSED IT:

- Welding on a single piece rim with a pressurized tire.
- The person in charge / supervisor assigned an unqualified welder to weld on a wheel rim mounted with a pressurized tire.
- Not making use of all required safety equipment, including PPE and tire cages that were only a few meters away.
- Failure to recognize the risks involved in the operation

### CORRECTIVE ACTIONS: To address this incident, this company did the following:

Instituted a robust system that ensured:

- The company instituted a screening program for small sub-contractors performing miscellaneous minor services on-site.
- The company instructed supervisors that all personnel, including “day pass workers”, are to fully participate in mandatory site training and that the workers have been checked for competency against the jobs they were expected to perform.
- Rigorous screening of contractor activities was instituted to identify high risk activities (e.g. tire repairs) where industry lessons learned were available to flag risks and special training is required for workers to execute the job safely.
- The company assigned competent skilled supervisors and safety representatives to cover this “non-primary” work area.
- The company increased efforts on the communication of hazards via Task Instructions or Toolbox Talks.
- Site supervisors were instructed to conduct these meetings on a regular basis to make workers fully aware of “what to do” and equally importantly “what not to do”.
- Supervisors were instructed to ensure that Tool Box Talks or Task Instructions are job specific enough to truly convey the understanding of the hazards involved and not just a “tick-the-box” exercise.
- Supervisors were instructed to ensure that they empowered all workers to stop the job and to be proactive in promoting safety. This is to be visibly happening everyday not on rare exceptions!

**IADC Note:** See the video created by “Standards Testing Laboratory Inc.”  
<http://www.youtube.com/watch?v=HiLeji8bLOk>

**The Corrective Actions stated in this alert are one company’s attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.**

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## Photos of Tire and Shop



Wheel landed 3 to 4 meters from its original location after hitting the roof



Interior of the Workshop where the incident occurred (arrow tip)



View inside the rim where welding was done ca. 1

Weld area from hub side



Cross-beam of the roof struck and dented from impact of the wheel (Tyre-Rim Assembly) launched from the floor (ca. 8 mtrs)

Inside edge of the wheel rim indicating impact when it struck the roof cross-beam



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