



The National Institute for Occupational Safety and Health (NIOSH)

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Insulator Dies after Falling 26 Feet to the Ground in Massachusetts

MASSACHUSETTS FACE-91-01

SUMMARY

A 42 year old insulator (victim) died shortly after falling 26 feet from the roof of the steel boat storage shed he was insulating. He was working with two other men laying strips insulation, 82 feet long and 3 feet wide, across the bar joists of the roof. The insulation was then covered with metal decking. As each section was finished, the crew would use that section to stand on to continue their work. A gust of wind lifted the insulation and when the strip settled back down, the victim had fallen to the crushed stone floor below. Neither of the other two co-workers claims to have witness the fall. No fall protection was available to the insulation crew. The victim died in the hospital shortly after arriving there by ambulance. The Department of Labor and Industries investigations concluded that, to prevent future similar occurrences, employers should:

- **provide fall protection by installing static lines, lifelines and safety harnesses**
- **provide safety nets where the use of other fall protection methods is impractical**
- **check the normal safety equipment used to determine if it is adequate under very windy conditions**
- **establish, implement and enforce a written comprehensive safety program that includes regularly scheduled safety training and accident prevention.**

INTRODUCTION

On November 20, 1990, at approximately 2:40 p.m., a 42 year old male insulator died of injuries sustained when he fell 26 feet from a roof he was insulating. Manchester police notified the Massachusetts Division of Industrial Safety Department of Labor and Industries for the incident on November 21, 1990. On November 26, 1990 two safety investigators from the Department of Labor and Industries initiated an investigation of the incident. They visited the work site, interviewed workers from the crew and secured reports

form the local police and emergency medical service who assisted at the scene. Photographs of the site were obtained. The investigations also reviewed details of the incident with Occupational Safety and Health Administration compliance officers.

The victim was the employer/contractor of the insulating crew of three employees. He had 22 years experience in the insulation trade and had been working this particular contract for five weeks. No safety training was provide to new employees, although general work practices were reviewed with them at the time of hire. The hob was 60% complete and on schedule at the time of the incident. There was no safety program in place and no tool box or tailgate meetings were held onsite.

INVESTIGATION

The contractor was hired to insulate a Butler building approximately 80 by 200 feet with strips of fiber glass that measured 82 by 3 feet, 3 feet thick. The insulation was laid down on the bar joists of the roof and covered with metal decking. The insulators stood on the finished portion of the roof as their work progressed. On the afternoon of the incident, the victim and two other crew members were laying a piece of insulation when a gust of wind lifted up the strip they were standing on the roof, apparently having lost his balance and fallen 26 feet onto the 1 ½ inch crushed stone floor. The local police and ambulance were immediately summoned. The victim was unresponsive at the scene; he was transported to a hospital where he was pronounced dead within an hour.

Neither the victim not any of the crew members used any safety or fall protection. No static lines were installed in the building and no safety nets were in place.

CAUSE OF DEATH

The medical examiner listed cause of death as blunt chest trauma.

RECOMMENDATION/DISCUSSION

Recommendation #1: Employers should provide fall protection by installing static lines, lifelines and safety harnesses.

Discussion: A static line attached to poles securely attached to the upper corners of the building can be used to attach lifelines. The lifelines and safety harnesses should be attached to static lines and worn at all times that insulators are working at heights that may result in serious falls. The use of lifelines and safety harnesses is to comply with OSHA standard 29 CFR 1926.104 (a)-(f)

Recommendation #2: Employers should provide safety nets where the use of other fall protection methods is impractical.

Discussion: The OSHA standard 29 CFR 1926.105 requires the use of safety nets at heights over 25 feet where it is not possible or practical to secure static lines above the point of operation.

Recommendation #3: Employers should check the normal safety equipment used to determine if it is adequate under very windy conditions as well.

Discussion: The likely hood of falls is greatly increased by strong gusts of wind when long strips of insulation can act as sails and upset the balance of the workers.

Discussion: Although the victim was the employer, conscientiously designing and implementing a safety program for employees would have made him more aware of and responsive to the hazards of the job. Regular training in addition to a safety orientation for new hires should include a thorough examination of the hazards of the job and that appropriate protective measures to be taken. The employer should conduct regular inspection to ensure that all safety equipment is properly used and maintained and that an appropriate safety plan is in place for each job. The general requirements and employer responsibility for safety training and accident prevention are provided in the OSHA standard 29 CFR 1926.20 and 1926.21.

REFERENCES

1. 29 CFR 1926.104 (a)-(f), Code of Federal Regulations, Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register. Page 103. (1991)
2. 29 CFR 1926.105 (a)-(f), Code of Federal Regulations, Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register, Page 103. (1991)
3. 29 CFR 1926.20 and 21, Code of Federal Regulations, Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register, Page 15-16. (1991)

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