

North Dakota State University

Sandblasting

I. Introduction

NDSU employees are continually exposed to construction projects in various stages. Each project brings unique challenges and duties to staff. By outlining and following the recommended safe operating procedures, we learn to prevent injury and safeguard ourselves and coworkers against a job related injury or death.

II. Purpose

To reduce the risk of work related injury or death by maximizing personal safety during construction and mechanical operations.

III. Goals

To ensure all employees know and understand the safe operating procedures involved with construction and mechanical operations.

IV. Procedures

Sandblasting is used extensively for the purpose of cleaning or preparing a variety of surfaces using various types of abrasive materials. Workers who perform the sandblasting operations can be exposed to toxic materials, such as lead or zinc, while removing existing coatings from material surfaces. They are also exposed to hazards from the sandblasting agent, usually silica sand; therefore there are a number of safety precautions that must be taken by blast operators and other crew members.

Although sandblasting is done vary sparingly on NDSU campus or contracted out, NDSU employees need to be aware of the safe operating procedures for this type of cleaning process.

A. Guidelines

Workers who are exposed to dusts containing silica are required to comply with the *NDSU Safe Operating Procedure - Respiratory Protection* and undergo testing for use of a respirator. Job specific requirements will be outlined by the departmental supervisor prior to the start of the job.

1. Sandblast operators must remove their supplied air breathing equipment only when they are well away from the work location as silica dust and other contaminants can remain suspended in the air for long periods of time.
2. If an electrostatically conductive blast hose is not available, the blast nozzle must be grounded.
3. Sandblasting operations shall be carried out so that the abrasive materials and other particulate materials are contained and pose no hazards to workers or the public.
4. The sandblast pot must be grounded at all times.
5. The sandblast pot must be provided with a safety shut down, and the sandblast pot must be shut off while being filled with abrasives.

6. The operator must blow out all air lines and hose. The entire sandblasting unit must be carefully examined for defects before any work is started.
7. Sandblasting nozzles must be equipped with a remote control (dead-man) switch that allows the operator to control the sandblast at the nozzle.
8. When sandblasting is to be conducted in a confined space, the employee must comply with the requirements of the *NDSU Safe Operation Procedure - Confined Spaces*.

Sandblasting operations are noisy. Where exposure to noise levels exceeds 85 dBA, the employee is required to comply with the *NDSU Safe Operating Procedure – [Hearing/Noise Conservation](#)*. The NDSU Associate Director of Environmental Health & Safety shall be contacted prior to the start of the job for appropriate monitoring.

The application and use of appropriate Personal Protective Equipment is required of all employees who are involved in or near the sandblasting. Job specific requirements will be outlined by the departmental supervisor. Reference is made to the *NDSU Safe Operating Procedure - [Personal Protective Equipment](#)*.

PPE equipment shall include but not be limited to the following:

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| Self-contained breathing apparatus | Air hood respirators/face shields hearing |
| Protection | Protective coveralls |
| Full arm work gloves | Safety footwear |

All questions regarding safety and risk management during sand blasting operations can be directed to the University Police & Safety Office.

Copies of the various required Safe Operating Procedures for NDSU can be requested from the University Police & Safety Office.

V. Training

The department supervisor is responsible for providing training to their employees on a regular basis to enable them to recognize and prevent hazards associated with sandblasting.