



Training Solutions, Delivered!

ABRASIVE BLASTING

**Leader's Guide, Fact Sheet
& Quiz**

Item Number: 4077
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This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.

PREPARING FOR THE MEETING

Here are a few suggestions for using this program:

- a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.
- b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.
- c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.
- d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes before the quiz itself, which is on the final page.

CONDUCTING THE PRESENTATION

- a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.
- b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.
- c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.
- d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

4077 ABRASIVE BLASTING FACT SHEET

LENGTH: 10 MINUTES

PROGRAM SYNOPSIS:

Abrasive blasting equipment is used all over the world in a wide variety of applications. High-pressure compressed air allows operators to apply large quantities of abrasive material at high speeds. While it is effective, it can also be dangerous if you don't follow safe work practices.

This program will provide you with information about how to use blasting equipment in a safe, professional manner. Topics include blasting hazards, use of PPE, inspection of blasting equipment, safe operating procedures and cleanup procedures.

PROGRAM OBJECTIVES:

After watching the program, the participant will be able to explain the following:

- What hazards to look for when working with electricity and scaffolding;
- What PPE is mandatory when blasting;
- What to consider when inspecting and preparing to use the equipment;
- What safe operating procedures to follow during blasting.

INSTRUCTIONAL CONTENT

BACKGROUND

- Working safely with abrasive-blasting equipment is really up to you. You operate the equipment and only you can ensure that it's done safely.
- The best equipment, safety procedures and knowledge in the world will do nothing if you don't put it to work.
- The key to preventing workplace injuries is hazard awareness. In this line of work, there are potential hazards that can do serious harm to those involved.
- By being aware of the hazard and then taking the steps necessary to ensure your safety and the safety of your co-workers, you greatly minimize the risk.

ELECTRICAL HAZARDS

- Never operate blasting equipment near power lines.
- If working near any other electrically-powered equipment, make sure it is turned off before you begin. Remember, water and electricity don't mix.
- When blasting within enclosures where any combustible gases are present, explosion-proof light fixtures, switches and wiring are required.

SCAFFOLDING

- If your work requires the use of a scaffold, make sure it is erected properly and meets safety requirements.
- If you are working above six feet, you must wear an approved fall protection harness at all times.
- Make sure the planks are clamped or tied securely to the scaffold and make sure that abrasive material doesn't build up near the operator.
- The blast hose and air hose should be tied to the scaffolding to make the hose easier to handle for the operator. This also helps minimize the risk of those on the ground should the hose drop or fall.

USE OF PERSONAL PROTECTIVE EQUIPMENT

- Everyone on the job site is required to wear PPE; the type and level of protection is determined by the work performed and the hazards present.
- At a minimum, everyone on the site is required to wear steel-toed work boots, safety glasses and a hard hat. Hearing protection may also be required.

- Needless to say, blast operators need more protection. Specially-designed blast suits are available and provide a good base of protection.
- Leather gloves are a must when spraying abrasives at this velocity.
- Blasting equipment makes a lot of noise, so approved hearing protection such as ear plugs or ear muffs is required at all times.
- Workers on site may be required to wear a dust mask or respirator, even if they are far way from the blasting operation. Check with your supervisor for the correct respiratory protection.

THE BLAST HELMET

- The blast operator wears an air-supplied helmet. This helmet provides clean, fresh breathing air, protects the operator's face from airborne abrasives and provides head impact protection.
- The lens in the helmet is only designed to protect the operators' face from high-speed abrasives, not larger, heavier objects. For this reason, safety glasses should be worn under the helmet.
- Any modifications to the helmet are strictly prohibited.
- The chin-strap should be adjusted to ensure a comfortable, well-balanced fit.
- Never use a helmet without an inner collar. This collar is crucial in preventing harmful dust from entering the helmet during blasting.
- The cape assembly protects the operator's upper body from rebounding abrasives.
- Never carry your helmet by the breathing tube. This can cause leaks, compromising the effectiveness of the equipment.

INSPECTION & MAINTENANCE OF YOUR PPE

- To make sure your PPE is providing the level of protection required, it must be properly maintained.
- Inspect it at least once a day and look for any signs of damage or wear. Replace any unsafe components immediately.
- At the end of each shift, dust should be vacuumed from the helmet before it is removed. The helmet should be placed in a dust-free area in a plastic bag until the next use.
- At least once a week the inside of the helmet, the inner collar and the cape should be washed with warm water and a mild detergent.

TRAINING & AUTHORIZATION

- Since blasting equipment is so powerful, only people who are properly trained and authorized are permitted to operate this equipment at any time.
- Your company will provide you with the proper training, but remember it's your responsibility to put this knowledge and training to work.

EQUIPMENT INSPECTION

- Inspect all equipment before you use it. This includes the air compressor, couplings blast nozzles and nozzle holders.
- There must be a safety cable at every connection on the blast hose. Test them to ensure a tight secure fit.
- Make sure the safety locking pins are in place to prevent accidental engagement.
- Check the nozzle and holder. They must not be cross-threaded, worn or distorted.
- Check the entire air-supply system, PPE and helmet before each use.

PREPARATIONS FOR OPERATING THE EQUIPMENT

- Take a look around the area where you'll be working to detect any potential hazards you may encounter.
- If there are other workers working near or around you alert them when you are ready to begin. The blasting site must be blocked off to prevent unauthorized personnel from entering.
- All hose and pipe fittings must be cleaned prior to attachment.
- Before attaching the air hose to the blast machine, open the safety petcock on the remote control valves. This prevents accidental activation of the remote controls.
- The petcock should also be opened any time the hose is moved by someone other than the blaster while the compressor is running.
- The blast machine bleed-off muffler must be pointed upward for proper operation.

SAFE OPERATING PROCEDURES

- Keep your attention focused on the task at hand and avoid distractions. Operating blast equipment is a big responsibility that needs to be taken seriously.
- To start blasting, close the safety petcock on the remote control valve.
- Never point the nozzle anywhere other than at the material you are blasting and never, ever point the nozzle at another person.
- Holding the nozzle itself is not recommended and the operator must maintain full pressure on the handle lever for even operation. Never tape or tie down the lever.
- Coupling and nozzle holder gaskets must be replaced at the first sign of wear or distortion. A leaking gasket can cause a separation of couplings, or in some cases, the nozzle may blow out of the holder and cause injuries or damage to equipment.
- If your helmet lens becomes dirty or scratched, your vision could be impaired and your safety compromised. Replace broken, scratched or pitted lenses immediately.
- When blasting is interrupted for any reason, blast operators and anyone else in the blast zone must remain in their air-fed helmets. Harmful dust remains airborne long after blasting has ceased.
- To stop blasting, release the remote control lever handle. The lever and lever lock should spring open at the same time.
- If there is a delayed reaction, there may be dust or dirt build-up. This should be cleaned before blasting resumes.
- The operator should hold the blast hose until the air pressure from the nozzle drops to zero.
- Lay the hose down carefully. Dropping or throwing the hose down may damage the nozzle or handle assembly.
- Before removing your helmet, open the safety petcock on the remote controls to prevent accidental activation.
- At the end of each work day, the blast machine must be emptied. Uncouple the blast hose from the machine, open the valve all the way, reduce the air pressure to 40 or 50 PSI and pressurize the machine for a few seconds.
- Emptying the machine at high pressure will damage the machine coupling.

CLEANUP PROCEDURES

- Clean up abrasives before removing your respiratory protection. A vacuum system is the best way to remove spent abrasive and debris; don't use compressed air to blow the dust away.
- When the air has been determined free of dust, the operator and all other personnel in the blasting zone should vacuum the outside of their clothing.
- Turn off the air compressor and bleed the air tank. Disconnect the air hose and coil it up neatly. Keep hose ends clean.

ABRASIVE BLASTING

ANSWERS TO THE REVIEW QUIZ

1. a

2. b

3. c

4. b

5. b

6. a

7. b

ABRASIVE BLASTING
REVIEW QUIZ

The following questions are provided to determine how well you understand the information presented in this program.

Name _____ Date _____

1. You must wear an approved fall protection harness when working more than six feet off the ground.
 - a. True
 - b. False

2. _____ gloves are must when spraying abrasives.
 - a. Cotton
 - b. Leather
 - c. Rubber

3. How often should your blast helmet, cape and collar be cleaned?
 - a. At least once a month
 - b. At least once every two weeks
 - c. At least once a week

4. The safety petcock on the remote control valves should be closed when attaching the air hose to the blast machine.
 - a. True
 - b. False

5. When blasting is interrupted, blast operators and others in the blast zone may remove their helmets.
 - a. True
 - b. False

6. What is the recommended air pressure for emptying a blast machine?
 - a. 40-50 PSI
 - b. 60-75 PSI
 - c. 100-125 PSI

7. What should be used to remove abrasives when cleaning up the blasting area?
 - a. Compressed air
 - b. A vacuum system
 - c. A water hose and nozzle