

High Pressure Water Jetting

Guidance Note 36

Jan 14



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High Pressure Water Jetting Toolbox Talk.

The term High Pressure Water Jetting covers all water jetting processes, including those using additives, abrasives or chemicals where there is an energy input to increase the pressure applied to water. This applies to Power Washing units that can be purchased from hardware stores to Industrial Tanker Units. Manual High Pressure Jetting, if not handled competently is a potentially hazardous process due to the power of the jet and the proximity of the operator to the jetting equipment.

The pieces of health and safety legislation applicable to High Pressure Water Jetting/Cleaning are:

- The Health and Safety at Work Act
- The Control of Substances Hazardous to Health Regulations (COSHH)
- The Provision and Use of Work Equipment Regulations
- The Personal Protective Equipment Regulations.

Along with the following industry guidance:

- The Water Jetting Association Code of Practice.

Work Activities that may use High Pressure Water Jetting.

- Graffiti Removal
- High Level Building Exterior Cleaning
- Grounds/Car Park Cleaning
- Drain/Sewer Cleaning
- Stone Cleaning.

Protecting the Public.

Before jetting commences an area of public exclusion should be created. This can be done with the use of cones, tape, signage or screens. Also, if the surface of this area is to be cleaned, then the area needs to be free from debris as this can be propelled at a high velocity and cause injury or damage. Authorised persons wishing to enter this area should wait until the jetting has stopped. If any unauthorised entry is detected the pressure should be shut off safely and immediately. Hoses outside the exclusion zone should be protected.

Protective Clothing.

Water at high pressure with the possible inclusion of hazardous chemicals is capable of inflicting very severe injuries. This must be subject to a suitable and sufficient risk assessment, from which can be developed a safe system of work. In most on site situations, only the use of personal protective equipment (PPE) represents a reasonably practicable means of reducing the risk to an acceptable level. The PPE required for all members of the jetting team will consist of as a minimum:

- Safety Helmet
- Water Proof Gauntlets
- Heavy Duty Water-Proof Overalls
- Hearing Protection
- Face Shield
- Safety Boots with metatarsal protection.

Equipment Maintenance

All equipment should be checked daily by users and weekly by supervisors for any damage or corrosion in accordance with the manufacturer's instructions. These checks should be recorded on a log sheet. The checklist/logsheet should include:

- Condition of hoses and couplings. These should have common threads, be suitable for the required pressures and be free from kinks, tears or bulges.
- Jetting guns. These should be a minimum of 1 metre long for standard operations; the trigger mechanism should be free from debris and never locked or wedged in the on position.
- Jetting unit. This should be checked for external damage with special emphasis on connections, junction boxes, switches and supply cables. All electrical systems and their associated components should be protected from the ingress of water.

Do's and Don'ts

1. When starting to jet, one operative should start up the unit while another holds the jetting gun with the nozzle facing the floor. If there is only one operative, the jetting gun should be placed at a safe distance with the nozzle facing away from the unit and operative, or in the jetting gun holster if one is available.
2. Carry out the cleaning operation in full PPE in the enclosed area.
3. Don't point the jetting gun at anyone at any time.
4. Don't leave the unit running unattended.
5. Always use two hands when carrying out operations.

6. Don't lock the trigger on.
7. When the unit is running and no cleaning is taking place, ensure the jetting gun is facing downwards at all time. If a holster for the jetting gun is available place the gun in the holster.
8. Don't Change the jetting nozzle while the unit is running.
9. If the jetting unit is not secured in a vehicle or on a trailer, ensure it is situated on firm level ground.
10. Don't use on a ladder.
11. If used on a Mobile Elevated Work Platform (MEWP) or Scaffolding then the operator should be anchored to the platform by fall restraint equipment, the jetting equipment should also be secured to the working platform.
12. Always ensure electrical points are sufficiently covered and isolated if jetting equipment is used indoors.
13. Operatives should take regular breaks to recover from fatigue.
14. Control of Substances Hazardous to Health (COSHH) assessments should be carried out if any cleaning chemicals are used in the process.

High Pressure Water Jet Injuries.

Pressure injection injuries, especially to the hand and upper extremities are serious injuries, which could lead to the loss of life or limb. The pressure required to penetrate the surface of the skin is 6.89 bar/100 psi. However, pressures used for High Pressure Jetting in industry can exceed 172 bar/2500 psi.

The pattern of tissue damage from a high pressure water injury can be similar to that of a gunshot wound and can be very extensive with small entry and large exit points.

Also, there is a high probability of infection from these injuries as contaminants can be driven deep into the surrounding tissue travelling along visceral planes, nerves or tendon sheaths resulting in vascular compression and local necrosis which could eventually lead to amputation.

All High Pressure Water Jetting injuries should be treated as surgical emergencies and the injured party should be referred to hospital with the potential severity recognised immediately. As well as the wound being treated, prophylactic broad spectrum antibiotics will be required at the earliest stage.

If an operative is taken to hospital, you must ensure that hospital staff are aware of:

- The time of Injury
- The nature of the material in the jet
- The possible complications that may arise
- Any antibiotic allergies
- Date of last Tetanus injection.

I confirm that I have received the above toolbox talk on High Pressure Water Jetting and understood the content and its application:

Name:.....

Date:.....

Signature:.....

Trainer:.....

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