

Method Statement: Using the Bristle Blaster with Zinga on site

Summary of risks:

Personnel:

Eyes: Bristle-blasting does not generate the clouds of dust that are associated with normal compressed-air blasting, and there is no danger from random airborne high-speed blast-media.

However, it is strongly recommended that operators wear goggles or safety-glasses at all times when operating a bristle-blaster machine.

The goggles or safety-glasses must always be very clean so that the operator can clearly see the surface-profile that is being attained as the work proceeds.

Ears: The Bristle Blaster does not generate the same noise levels as similar machines of this size such as angle-grinders, but ear-plugs are recommended when using the machine for more than two or minutes at a time.

Inhalation: Any dust generated by the bristle-blasting operations could be inhaled by the operator, especially when working in windy conditions or in confined spaces. When working in these conditions the operator should always wear an approved face-mask such as the 3M™ paper face-masks that have colour coding for the various irritant-dust types.

Hands: There is no danger to the operator's hands from the machine if it is held and operated as per the manufacturer's instructions. Where work is being carried out at height or from specialised access equipment it is advisable for the operator to wear non-skid gloves, preferably of the kevlar non-rip type.

Feet: Steel toe-capped boots must be worn on site at all times as per regular site-safety requirements.

Head: A hard-hat must be worn at all times as per normal site-safety regulations.

Body: Coveralls or denim work-trousers and a matching smock must be worn at all times during bristle-blasting operations to avoid paint and other foreign debris from coming into contact with the operator's skin. A high-viz vest should be worn at all times.

General considerations:

- 1) Slips and falls
- 2) Foreign bodies in the eyes
- 3) Exposure to electric current
- 4) Loose electrical fittings
- 5) Entanglement of electrical leads

Application of the Zinga coating/s:

- Any operator with sensitised skin should wear latex gloves before opening any containers or stirring the Zinga prior to its application.
- The zinc must be well stirred in the container and then applied by brush onto any and all sharp edges, drilled holes and around nuts, bolts and washers. This is the globally-approved system of stripe-coating, which prevents coatings from 'pulling back' on sharp edges and corners etc which results in a much lower film-build on these areas and could result in premature edge-breakdown.
- Once this stripe-coat has dried for 10 minutes @ 20°C or where the zinc has fully dried to a uniform light-grey colour all over, the adjacent flat surfaces can then be coated with Zinga.
- The Zinga will normally dry hard within 10-15 minutes @ 20°C, but it should be allowed to polymerise for an hour, where possible, before any subsequent or final coat is applied.

Quality Control and Cleaning:

- It is very important that the customer is totally satisfied with the work, and if there is any dissatisfaction then this should be communicated to the contractor as soon as possible.
- Ambient temperature and humidities, steel temperatures, dew-points and prevailing weather conditions should be logged at least twice a day into the site log-book. These measurements must be made every hour where rain is likely and/or a cold-front is expected to come through the geographical location where the work is being carried out.
- Surface-profile measurements must be taken at a rate of 15 readings per m², as bristle-blasting is a tightly-controlled operation where the specified surface-profiles must be achieved at all times.
- Coating thicknesses can be measured wet with a paint-comb, and the dry film can be measured once the zinc has been allowed to dry for an hour. This will give a good guideline to the DFT/s.
- At the end of each working day and at the end of the project, ensure that any and all waste is disposed of in the correct and approved manner and that the area is both clean and safe. The site should be left as clean as it was prior to the project start-up..
- Even though dried Zinga is non-toxic and harmless, the empty containers should be disposed of in the same manner as normal paint containers.
- Any splashes or spillages can be cleaned up using Zingasolv or plain lacquer thinners or even normal gun-wash.

Procedure on site:

- Before work commences the contractor must obtain a “PERMIT TO WORK” document from authorised personnel.
- Ensure that all team-members are wearing high-viz vests for easy identification.
- Position and lay out the equipment and the power-cables so that no danger is caused to bystanders and to ensure that all traffic hazards are minimised.
- Ensure that all electrical fittings are totally secure and that all plugs are correctly earthed.
- Ensure that all work areas are properly demarcated and correctly sign-posted and, where possible, barriers are erected.
- The highest levels of house-keeping shall be implemented prior to and maintained during all use of bristle-blasting equipment.
- Attend to all HEALTH AND SAFETY PROCEDURES.
- Feet, head, eye, hand, ear and respiratory protection shall be worn at all times.

Pre-work Actions:

- Complete a work assessment
- Assess the surfaces to be treated and the general substrate condition.
- Agree the cleaning and coating specification that is to be worked to.
- Communicate and consult with all relevant personnel regarding the risk assessment and all other safety and environmental issues.
- Assess the proximity of hazards
- Ensure that traffic-management minimises hazards to operators.
- Ensure that the Zinga stock is stored in a safe location away from any source of heat or flames.
- Agree a start-date and time with the customer.
- Obtain a weather forecast for the start-date and re-assess on the day, liaising with the customer and where necessary rearrange the start-date and time.

Setting up machinery:

- Ensure that traffic-management minimises all risks to personnel, especially those working at height.
- Make the necessary electrical connections with extension-leads and ensure that all cables are free from interference with both foot and vehicular traffic.
- Assess the surfaces and /or areas to be cleaned and select the correct bristle-wheel.

Description of the work process:

- Ensure that the lighting is adequate in the work area/s.
- Ensure that all required signage has been put in place.
- Any areas that require demarcation with tape etc should be done now.
- Ensure that all plastic ground-sheets are correctly laid and secured in place.
- Ensure that the operator of the bristle-blaster has connected all electrical leads correctly.
- Ensure that the operator has the correct safety and breathing apparatus available.
- The operator may now carry out a test on the area to be cleaned.
- Where the operator is not sure of any operational procedures or has any query, he must consult the operating manual for the bristle-blaster or contact the manufacturers.
- After a test-area has been cleaned, it must be dusted off with a soft nylon brush and the blast-profile measured. Preferably with the customer or his appointed inspector present.
- If there is agreement on the result, the work can then commence.
- The operator must remain aware of the escape of debris from the surface being treated.
- Ensure that the operator takes regular breaks and inspects the quality of his work.
- Blast-profile readings must be taken at a rate of between 10 -15 readings per m² to maintain the required specified profiles across the entire surface being treated.
- Where the profile-depths begin tailing off, the bristle-belt must be exchanged for a new one before the profiles are reduced below Rz 60µm.
- Old bristle-wheels must be discarded immediately to avoid them being accidentally re-used.
- Where appropriate, any residue build-up must be removed during the working and then bagged at the end of each work-shift and disposed of in a safe and proper manner with due regard environmental considerations.
- Ensure that the work area is brushed down at regular intervals to maintain good house-keeping and to prevent the settlement of residues.
- When work is completed at the end of the day, ensure that the machinery and the work place is made safe and inform the necessary personnel before leaving site.