

# **SAFETY & HEALTH MANUAL**

*Safety & Health at Work  
Take the Lead*



**PUBLISHED BY**

**HILLTOP STONES INC**



# SAFETY & HEALTH MANUAL



***Thank you for choosing Q Artz – High quality quartz surfaces from HILLTOP.***

Introduction: Hilltop Stones Inc is a supplier of Engineered Quartz Stone (EQS) slabs to wholesalers, distributors, fabricators, installers and any other end user. The products sold by Hilltop stone Inc or through its network of distributors, fabricators or installers are fabricated to make countertops or other products used inside the buildings or otherwise to the end users. The products are sold with a limited warranty with respect to quality.

Objective: This document lays down health and safety information and recommendation for the best work practices. The handbook explains safe work practices in handling, storage, transportation and fabrication related safety and the health aspects of engineered quartz slabs. It is not intended to cover each and every type of workplace scenario, nor to be used as a pictorial guide of do's and don'ts. Any advice or comment in this handbook is given in general context and should not be relied upon as a substitute for legal or other professional advice.

The focus is to address the most common – and hence more accident prone hazards related to the slab. It does not serve as a professional advice nor does it replace the personal obligation and responsibility of the fabricator to apply any or all health and safety measures as laid down by the local / national rules.

Disclaimer: The materials contained in this safety and health handbook have been developed to provide information and guidance to interested parties including transporters, fabricators and/or end users in managing safety and health risks within the ambit of the laws.

It is recommended to comply with the standard practices of fabrication and installation. However, if there is a claim by the end user against the fabricator, Hilltop Stones Inc will in no way be bound to the claim and is absolved from the claim made by the end user.

Whilst every effort has been made to ensure accuracy of the information in this document, Hilltop, their agents and publishers do not accept any responsibility or liability for any loss or damage caused either by negligence, misstatement or otherwise arising out of any errors, omissions or inaccuracies in the slabs.

Taking the advice and good management practice given in this document does not confer any immunity from legal obligations, both criminal and civil.

Copyright: The copyrights of the document rest with Hilltop Stones Inc. Reproducing any of its contents in any manner or by any means are not allowed.

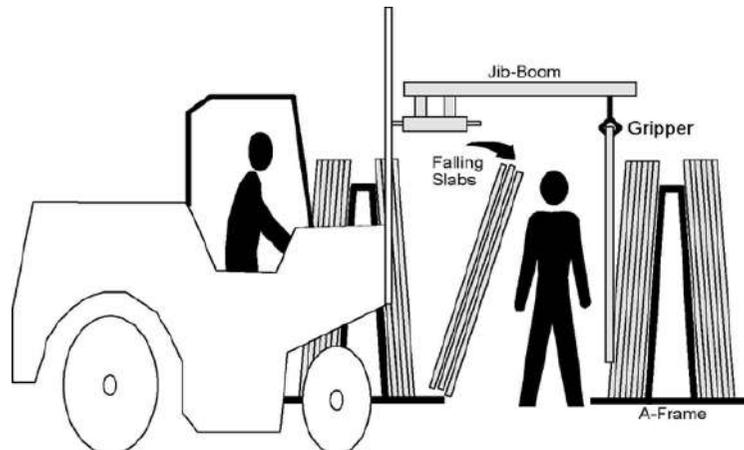
# SAFETY & HEALTH MANUAL

## Handling & Moving Stone Slabs



### Personal Protective Equipment (PPE)

The handling of building materials such as Natural or Artificial stone slabs has always posed a risk because of the large size, weight and sometimes its shape leading to considerable material handling challenges.



In any facility, housing the building materials such as Natural stone slabs or Artificial engineered stones slabs is the toughest to store and transport. These need specialised equipments to handle and trained staff to execute the same

- The slabs are stored either on the back of A – Frame made of steel or slab racks.
- The slab racks or the A – Frames should be designed to withstand heavy loads and forces that it may be subject to while loading or unloading.
- Ensure that the slab rack is already in position and placed on a stable horizontal surface.
- Ensure that there is no debris in the slots where the pole rests in the base, so that full insertion of the pole is achieved in the base.
- Wedges to be properly positioned between the slabs before attaching the clamping device.
- Use the appropriate mechanical handling equipment for lifting.

# SAFETY & HEALTH MANUAL

- Mechanical equipments such as cranes and powered industrial trucks to be used in combination with booms, hooks, chains, clamps, straps and other lifting devices.



*Spread Beams with Straps*



*Slab Bundle Handler*

- Ensure that the person handling the slab is not in the “fall shadow” (behind or in front of the slab), always stand in the side of the slab during operation.
- Always seek the assistance of a staffer for securing the fastening device with the mechanical equipment.

# SAFETY & HEALTH MANUAL



## Transportation

During loading, transporting and unloading of the slabs, the loads can shift and tip over. Potential hazards are to be identified to ensure safety while transporting the slabs.

*The following procedures will minimize the potential hazards of transporting and handling of the slabs:*

1. Always use sturdy and stable slab transportation devices to withstand loads and forces imposed on them
2. If storage racks other than A – Frames are used, they should be designed so that if one or more slabs shift or are moved, the other slabs will not be affected.
3. Secure the storage racks or A – Frames to the truck using the appropriate fastening method.
4. Inspect the storage racks and the A- Frames periodically.
5. Restraining devices and tie- downs, if used, should be properly applied and removed. Inspect restraining device and tie – downs prior to applying and before being removed. Restraining devices and tie –downs that do not pass inspection should be removed from service.
6. Truck drivers should visually check the slab rack for any visible damages during transit.
7. Employers must comply with OSHA provisions if using a fork lift or other equipment to load / unload slabs.
8. Ensure that customers / visitors are not anywhere in the vicinity of the slabs that are being loaded / unloaded.

# SAFETY & HEALTH MANUAL



## General recommendations:

1. Always pre- plan work. Ensure the availability of the equipment and accessories. Identify hazards. Assess the nature of the slabs, sizes, quantity.
2. Develop and implement safe stone handling procedures either while loading into a truck or while unloading it from a container.
3. Inspect material handling equipment frequently. Report any defective equipment. They must be either repaired or replaced.
4. Train, instruct and ensure that the employees observe correct material handling procedures.

## HEALTH HAZARDS & PROTECTION

Workers fabricating bench tops depending on the kind of stone or EQS are exposed to high levels of Respirable Crystalline Silica (RCS) which are hazardous to health. Even though the silica content is lower in natural stone products, workers can still be exposed to levels of RCS which are hazardous to health.

Generally, the workers have high risk of exposure to RCS during fabrication than during installation of the top due to less fabrication / cuts. Exposure to very fine crystalline silica (respirable) can lead to a range of respiratory diseases. Silicosis can be a serious health condition and can cause irreversible lung disease and permanent disability leading to death. Symptoms can cause cough, shortness of breath and fatigue. Workers suffering from Silicosis have an increased risk of chronic pulmonary disease (COPD), kidney disease and lung cancer.

This guide is an attempt to bring in practices to minimize the risks on health by observing proper practices and controls: Activities including cutting, sawing, grinding, sanding, drilling and polishing stone generates dust containing respirable silica. It must be noted that when there is none of these above-mentioned activities are involved, during installation there is no release of RCS.

# SAFETY & HEALTH MANUAL



*A combination of controls is required to protect the workers health including engineering isolation, work practices and personal protective equipment, training and consultation.*

- Properly designed dust suppression using water and exhaust ventilation to reduce the air – borne dust.
- To use tools and machinery that have been specifically designed to use with water attachments.
- To use adequate water feed directed at the material to prevent visible dust.
- Use guards on machinery and tools to suppress the control water spray.
- Large machineries used for cutting slabs to have water feed cutting at the point of contact of cutting.
- Edge milling, drilling or contouring machines to have water feed at the point of contact.

## *Local exhaust ventilation*

- Hand tools equipped with shroud and H-class rated vacuum.
- Install fixed, portable or flexible capturing hoods to capture dust at the point at the point of generation.
- Combination of water suppression and local ventilation controls, if necessary.

## *Isolation*

- Providing sufficient distance between work process and the work center (ex: bridge saws.)
- Providing barriers between work stations to prevent the mist from moving towards workers.
- Separate rooms away from the fabrication area or work centers – for food preparation or dining.

## *Work Practices*

- Wet slabs before grinding, cutting or polishing to aid the dust suppression.
- Prevent water pooling and drying on surfaces leaving dry dust surfaces.
- Capture excess water generated from water suppressed processes through curbing and channeling.
- Use of water jets and sinks routers for cutouts and edge finishing processes.
- Launder of dusty work clothing frequently.

## *Ventilation*

- Mechanical extraction ventilation to remove air continuously from the work area.
- Cross ventilation allowing natural air to enter through doors and windows.
- Move dust generating work centers to areas with higher natural ventilation or mechanical extraction.

# SAFETY & HEALTH MANUAL



## *Housekeeping*

- Use low pressure water or wet cleaning of floors and areas for settled dust.
- Never use dry sweeping or compressed air.
- Vehicle track and other areas to be kept wet all the time.

## *Personal Protective Equipment (PPE)*

- Provide workers with gloves, safety eye glasses, gumboots and aprons.
- Respiratory Protective Equipment (RPE) must be worn during all tasks associated with the risk of exposure to RCS.
- Minimum RPE should be a half face respirator with a particulate filter P1 & P2. A re-usable filter is preferred.
- It is best recommended to use Powered Air Purifying Respirators (PAPR) over half face respirators.
- Ensure that a proper fit is achieved to create a good seal between the respirator and the face to have a good protection. The fit test should be carried out by a competent person.