



ENIGMA

Beauty Beyond Limits

Health & Safety

GOOD PRACTICE GUIDE

SECURITY AND HEALTH

Orientation is provided in this guide regarding to security and health about the aspects that must be considered in tasks as cutting, carving, polishing, and in general, in the elaboration of Enigma Surfaces.

Enigma Surfaces is an AHD Surfaces 'engineered stone comprised of Gibbsite and Silicon Oxide. In the elaboration process we accomplish all the preventive measures by the application regulation. In this manual we establish the specific preventive measures that must be carried out in order to develop the treatment of our products with correction.

These instructions are destined to help enterprises and professionals dedicated to Enigma Surfaces elaboration, by applying the control measures of the exposition to the Gibbsite and Silicon Oxide breathable and other risks.

If these instructions are followed, there will be less risks associated in this activity. These documents must be available to any enterprise of this activity so that they can take advantage of the introduced control measures.

This information should be used in conjunction with the Enigma Surfaces Fabrication Guide, and do not exempt the business owner of the regulation compliance in each country according to the risk's evaluation, chemical contaminant measurements, and personal exposition limits.

Specifically, in this manual we provide information regarding:

- Machines and manual tools with water contribution
- Located extraction and filtering systems
- General ventilation of workplaces
- Periodical maintenance and control
- Cleaning methods
- Dust measurements
- Other risks: cut, projection, noise, load
- Individual protection teams
- Training and information to the workers
- Health security



RECOMMENDATIONS

ACCESS

Access to the working area allowed only to authorized personnel.

CUTTING MACHINES AND MANUAL TOOLS

Use cutting machines and tools with contribution water system. Dust can be controlled by cutting methods by humid via that avoid the thin dust to stay in the air and being captured in the water.

Make sure that water supplies are adequate and that they are in good condition. During bad weather, adopt the necessary preventive measurements for the ice formation.

Make sure that electrical systems and others have adequate protection against dangers in the working environment, including Gibbsite and Silicon Oxide dust or water.

Make sure that floors where the machines and tools are installed have drainage systems of the used water.

LOCATED EXTRACTION AND FILTERING SYSTEMS

Use a provider of local vacuum quality recognized equipment. When working contact qualified engineers.

The design must have the following elements: a bell; a compartment or other entrance that allows to pick up and to contain the contaminant; pipes to bring the contaminant out of the origin; a filter or other air cleaning dispositive, normally placed between the bell and the fan; a fan or other dispositive of air movement that generates air flow; and finally other tubes to unload clean air out of the work place.

Apply the local suction point in the generation source to catch the dust.

Close as much hermetically as possible the dust source in order to try to avoid that it expands.

The local suction point must be connected to an adequate extraction unit (for instance, a sleeve filter).

Do not allow that workers are situated between the exposition source and the local suction point; on the contrary, they will be directly in the contaminated air flow itinerary.

Every time it is possible, place the working area far from doors, windows or walking areas in order to avoid the currents interfere with the local suction points and that the dust expands.

Make possible the entrance of clean air in the working area in order to replace the extracted air.

The pipes must be short and simple, avoid long sections of flexible tubes. Discharge extracted air in a secure place far from doors, windows and air entrances.

GENERAL VENTILATION OF WORKPLACES

Make sure that the building is correctly ventilated; if it is necessary using forced ventilation. Make sure that the ventilation system does not stir settled dust and that the contaminated dust does not expand to clean areas.

Abolition sprayers can be used to avoid generating dust in the air coming from entrance or exit or transporter routes.

The emission of the dust extraction systems of the buildings must obey the Local environmental Legislation.

Use walls and floors that can be kept clean easily and do not absorb and accumulate dust. When it is necessary to avoid that dust expands between levels, use solid floors every time you can and cover them with a wear resistant material, colored so that the dust contamination stands out.

Control panels can be protected with a membrane.

When using cleaning methods in humid, get an adequate number of water faucets correctly located.

Provide an adequate number of vacuum points when using a central suction cleaning system.

PERIODICAL MAINTENANCE AND CONTROL

Maintain the equipment in good functioning and conditions, according to the supplier recommendations.

Clean the equipment regularly. Do not clean with a dry brush or with compressed air.

Do not allow that dust/garbage deposits dry before they get cleaned.

Maintain the local suction points in good functioning and conditions, according to the supplier or installation engineer recommendations. Noisy or vibrating fans can be signal of a problem.

Change supplies (filters, etc.) according to the manufacturer recommendations.

Never modify any piece of the system. If you do it, contact the supplier in order to see if the system still has the CE Label.

You must receive the instructions usage manual and a diagram of the installed systems. You must receive a report of the installation that shows the air flows of all the entrances, the air speed in the pipes, and the pressure in the cleaner or filter.

Contact the supplier to obtain information about the expected performance of the local vacuum. Keep this information to compare it with the future results of the tests.

At least once per week, visually check the equipment in order to detect possible damage signs, or if it is used constantly, check it more frequently. If it is used less frequently, check it before each time you use it.

Save the registers of the inspections during an adequate period that accomplishes the country legislation (at least five years).

CLEANING METHODS

Clean the equipment regularly. Clean the work area every day. Clean floors and other surfaces regularly. Use cleaning methods with water or vacuum (empty).

Take responsibility immediately of the spillages. Generally, cleaning systems by suction are not adequate to clean spillages of humid materials.

Do not clean with a dry brush or with compressed air. Do not allow that dust/garbage deposits dry before they get cleaned.

If the cleaning systems by suction will be used to spillages of big volumes of dusty material, the vacuums will have to be designed specially to avoid overloads or blocks.

In the cases in which it is not possible to clean in humid or with vacuum, and it gets necessary to turn to dry cleaning with brush, make sure that workers wear the adequate individual protection equipment, and that they take measures to avoid that quartz dust extends out of the working area.

DUST MEASUREMENTS

Do risks evaluations periodically to determine whether the existing controls are adequate.

The static and personal measures must be used together because they are complementary. It is task of the experts designated by the business owner and the representatives to choose the adequate solutions, while the applicable normative is respected.

The sampling strategy, the equipment that will be used, the analysis methods, etc., must be determined by industrial hygiene technical specialists.

Keep a complete documentation of the dust control campaigns and adopt a quality system, as it is described above.

Personnel that do the sampling work must give good example and wear breathing protection equipment in the required area.

**OTHER RISKS: CUTTING, PROJECTION, NOISE, LOADS
MANIPULATION**

When you produce Enigma Surfaces and depending on the specific characteristics of its production system, you can have some risks such as: blows and cuts with objects and tools, particles projections, exposure to the noise, vibrations and load manipulation.

Pay attention to the risks evaluation results made by security and health technical specialists.

Use adequate tools to each work and maintain them in an optimal state of functioning.

Use the required protection equipment in each moment: gloves, ocular protection, hearing protection.

Use mechanical mediums to transport pieces or heavy materials. Avoid as much as you can to manipulate and transport weights superior to 20 kg or in forced positions; avoid also repetitive movements.

ENIGMA SURFACES COUNTERTOPS INSTALLATION

The countertop must get out of the manufacturing workshop with all the operations made in order to avoid making terminations in situ.

In the case of having to re-examine the countertop, it is recommendable to do that in a ventilated place (terrace, balcony, etc.) and every time that is possible, work in humid. To do this operation, breathing protection measures must be used for the Gibbsite and Silicon Oxide particles, protective glasses, and hearing protection. In case that the retouch is made in dry the security measures are the same, and moreover, a portable suction dust system must be used (vacuum).

For the manipulation of pieces, use medium such as manual suction pads.

When making adjustments to the material outside of the fabrication facility that involve cutting or the use of solvents, latex gloves and FFP3 protection combined with filters to organic vapors must be used.

In order to finish the installation, all the dust rests must be picked up, avoiding generating dusty environments, and the countertop will need be cleaned.

INDIVIDUAL PROTECTION EQUIPMENT

In those areas of working places where risks were not able to be removed, it will be necessary to use individual protection equipment. Those areas will need to be clearly delimited with adequate signals.

The individual protection equipment must meet the CE pertinent normative about the design and manufacturing in relation with the security and health. The enterprise will have to supply all the individual protection equipment that will have the CE label.

The breathing protection for the Gibbsite and Silicon Oxide will have to be FFP3. Keep in mind that facial hair reduces the efficacy of a mask. The operators with facial hair must have respirators or other adequate alternatives.

When using individual protection equipment, you will have to establish a program that contemplates all the aspects about the selection, usage and maintaining equipment.

When it is necessary to wear more than one individual protection equipment, make sure that those elements are compatible themselves.

Check the efficiency of the breathing protection equipment before using it. Consult with the supplier the appropriate adaptation methods.

Keep the delivery registers of the individual protection equipment. Facilitate clean places to store the individual protection equipment while they are not used.

HYGIENE RULES

Provide a place to store the worker's clothing. Clean clothes must be separated from working clothes. This area must have rest rooms, showers and washbasins, as well as personal wardrobes.

Workers must not eat before they have washed their face and hands and after they have taken their working clothes off. Delimit a clean and specific area in which workers can prepare their food, eat and drink far from their working plants.

Provide workers an adequate quantity of clean working clothing, including replacements. Employees who work with Gibbsite and Silicon Oxide dust, must wear working jumpsuits made with a textile that avoids dust absorption. Do not use compressed air to clean working jumpsuits.

TRAINING AND HEALTH

TRAINING AND INFORMATION TO THE WORKERS

Make sure that the personnel receive formation about the risks associated to the elaboration tasks of Enigma Surfaces.

New workers must participate in a training session dealing with the security and health aspects, including the secure working procedures of the business owner to deal with dangerous substances such as breathable Gibbsite and Silicon Oxide.

Use many training methods and include visual help, videos, group debates and documents. The workers knowledge must be evaluated at the end of each session in order to see if the training material has been understood.

Training sessions must be organized periodically to keep the workers updated about the security and health aspects.

Inform your workers about the repercussions about health and security related to breathable Gibbsite and Silicon Oxide dust, noise or any other risks associated with its activity.

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Give them information about:

- Good practices that must be used in the working area about secure working procedures.
- When and how must be used any breathing protection equipment or other individual protection equipment.
- Dust control programs and the rest of planned correcting measures.
- Security data pieces of the used products.
- Work equipment, machines and tools that can affect their work.

In case that the measuring of the personal exposition of a worker to Gibbsite and Silicon Oxide exceeds the limit of the pertinent occupational exposition, the worker must be informed in detail of the results of the supervision of its personal exposition.

Participation in the training sessions must be compulsory. Participation must be documented and keep a register.

It should be requested to the workers to give their opinion about each formative session, so that they can help with future sessions.

HEALTH SECURITY

The area of health security should keep in mind those working positions with exposition to the Gibbsite and Silicon Oxide.

Specific sanitary vigilance protocols of application should be determined to the exposed workers: spirometry, X rays, regularity, high resolution tomography.

TECHNICAL ADVISING REPORT

The recommendations and suggestions of this document are just a guide for implementation of the organizational measures, techniques and personal habits.

These do not replace legal obligations established in security and health area by the normative of each country, risks evaluations, planning of correcting actions, specific technical guidance reports, training and information, preventive medicine, etc., that belong to security and health departments of the companies or to the external advisers in this area.