



SILICA EXPOSURE RESPIRATORY PROTECTION PROGRAM

INTRODUCTION

Tate Engineering Systems has determined that some of its employees may be exposed to airborne concentrations of dusts at or above established action levels while performing service, maintenance or construction work at some of our customer's facilities. This includes exposure to silica. Exposure assessments must be conducted for those employees who are expected to be exposed to respirable crystalline silica at or above the action level. If after performing a Hazard Assessment, it is established that engineering controls to reduce worker exposure below established action levels are not feasible or do not reduce airborne concentrations to an acceptable level then the Respirator Program must be implemented. Respirators will be provided to employees who are exposed to respirable crystalline silica. Engineering and work practice controls shall be used to reduce and maintain below actionable levels of employee exposure to respirable crystalline silica. An assessment of the written program's effectiveness will be conducted annually. The Tate SILICA EXPOSURE RESPIRATORY PROTECTION PROGRAM is available to all employees for review, posted on the Tate internet U Drive or printed at the request of the employee.

Tate Employees may be exposed to respirable crystalline silica when:

- Working near other contractors performing refractory work
- Performing refractory work
- Sweeping, mixing or exposed to spilled refractory in under ventilated areas

LIMITING EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA

- Tate Branch Service Manager will require client POC provide information on use of refractory in the work area by other contractors when service is requested
- Tate service and warehouse workers will use good housekeeping measures, safely stacking and storing refractory to prevent spills
- Tate service workers will mix refractory in exterior locations of client sites in well ventilated areas
- If after performing a Hazard Assessment, it is established that engineering controls to reduce worker exposure below established action levels are not feasible or do not reduce airborne concentrations to an acceptable level then the Tate Service Technicians shall inform the client POC and don half face mask respirators with P100 cartridges

The purpose of this program is to protect our workers from respiratory hazards. Tate does not allow employees to work in IDLH atmospheres that have been identified by the client or by Tate personnel after atmospheric testing. Tate utilizes loto, isolation, double block & bleed, ventilation and other engineering controls to eliminate the potential for IDLH conditions. If an IDLH condition or environment has been identified all work must immediately cease until the client has corrected the condition and made it safe for Tate Technicians to continue work.

This respiratory protection program applies to all company employees who are required to wear respirators while working and to those who choose to wear respirators on a voluntary basis. Company employees who

wear N95 “dust masks” are not subject to the medical evaluation, cleaning; storage and maintenance provisions of this program, these respirators are not dependent on a tight fit and are disposable.

Employees who are required to wear tight fitting respirators shall participate in this program at no cost to them. Employees who choose to wear non tight fitting facepiece respirators where respiratory protection is not required shall be provide dust masks.

RESPONSIBILITIES

Branch Service Managers are responsible to perform the following duties:

- Identify work areas, processes or tasks that require workers to wear respirators.
- Evaluate respiratory hazards.
- Ensure the selected appropriate respiratory protection is being used.
- Monitor respirator use to ensure that respirators are used in accordance with their certifications.
- Arrange respirator user training. Training may be provided by third party vendors who are experts in the selection, use and maintenance of their products.
- Ensure proper storage and maintenance of respiratory protective equipment.
- Plan for fit-testing using the appropriate method.
- Ensuring that the program is implemented on all job sites.
- Ensuring that employees using respirators understand and follow the program.
- Ensuring that company employees have received respirator use training, fit testing and medical evaluation.
- Ensuring the availability of respirators and accessories.
- Enforcing the proper use of respiratory protection when required.
- Ensuring that respirator users properly clean, maintain and store their respirators.
- Coordinating with HR and the Safety Manager regarding all aspects of the program.
- Arranging for employee to have time to complete annual fit testing.

The Safety Manager is responsible to perform the following duties:

- Evaluating the program.
- Updating the written program as needed.
- Supporting the Branch Service Manager as needed.

The Human Resource Manager is responsible to:

- Arrange for the fit test and medical surveillance upon hire.
- Maintaining records required by the program.
- Provide for Annual fit testing and ensure provides are compliant with standard requirements.
- Provide medical surveillance for all employees whose exposure is equal to or exceeds the action level of silica exposure for 30 or more days per year.

Employees are responsible to perform the following duties:

- Wearing a respirator when and where required.
- Wearing the respirator in the manner described during training.
- Maintaining the respirator as instructed.
- Storing the respirator in a clean and sanitary location.
- Informing the supervisor if a respirator no longer fits and requesting a new one.
- Informing the supervisor or program administrator of any concerns regarding respiratory protection.

SELECTION PROCEDURES

The Safety Manager, will select respirators to be used based on the hazards to which workers are exposed and in accordance with all OSHA standards. The Branch Service Manager will conduct a hazard assessment for each operation, process or work area where airborne contaminants may be present in routine operations.

NIOSH CERTIFICATION

All respirators used by Tate Engineering Systems will be certified by the National Institute for Occupational Safety and Health (NIOSH). All filters, cartridges and canisters used by company employees will be labeled with NIOSH certification labels. Filters, cartridges and/or canisters that have missing or defaced NIOSH certification labels will be removed from service immediately and discarded.

VOLUNTARY RESPIRATOR USE

Where voluntary use of N95 “dust mask” respirator use is permitted and employee chooses to use it, the company provides the N95 dust mask. The Safety Manager will provide each employee participating in voluntary respirator use with a copy of Appendix D of OSHA’s current Respiratory Protection Standard.

MEDICAL EVALUATIONS

Employees who are required to wear respirators must receive a medical evaluation before respirator use begins. Tate will provide medical surveillance for all employees whose exposure is equal to or exceeds the action level of silica exposure for 30 or more days per year. Medical evaluation procedures are as follows:

- Tate requires the Primary Licensed Health Care Professional (PLHCP) to make the following medical and fit testing determination recommendations concerning our employee's ability to use a respirator:
 - 1910.134(f)(1) pass an appropriate quantitative fit test (QNFT)
 - 1910.134(f)(5) The fit test shall be administered using an OSHA-accepted QNFT protocol. The medical evaluation will be conducted using the questionnaire found in Appendix C of OSHA’s Respiratory Protection standard.
- All affected employees will be given a copy of the medical questionnaire to fill out, or acquire the document at the test site. Respirator users will be allowed to complete the questionnaire on company time.
- Follow-up medical examinations will be granted to employees as required by OSHA’s current Respiratory Protection Standard or as deemed necessary by Medical Provider.
- All employees will be given the opportunity to speak with Medical Provider about their medical evaluation.
- Medical Provider shall be provided with the following:

- a copy of this Respiratory Protection Program;
- Appendix A Fit Testing Procedure response form. The form is to be completed with the Tate employee during Fit Testing.
- the hazardous substance or substances found during the Hazard Assessment:
 - Cleaning boilers where dust levels exceed nuisance level.
 - Sweeping, crushing, cutting, chipping or mixing of refractory cement.
 - Desiccant dust from compressor service
- the name and job description of each respirator user:
 - Welder, Boiler Tech, HVAC Tech
- the type and weight of the respirator assigned to each user:
 - half face respirator
 - MSA, North Brand
- the estimated length of time each user will be required to wear a respirator:
 - 1-3 hours for task, break as needed, working in ventilated area
- the expected physical work load:
 - light, moderate and heavy, tasks specific
- potential temperature and humidity extremes:
 - Work in mechanical room can be high heat and high humidity in summer months
- information about any additional personal protective equipment and/or clothing each employee may be required to wear:
 - Eye, face, foot, hand, ear, PFAS, clothing, head
- After an employee has received clearance and begun to wear a respirator, additional medical evaluations will be provided under the following circumstances:
 - the employee reports signs and/or symptoms related to his or her ability to use a respirator such as shortness of breath, dizziness, chest pains or wheezing;
 - Medical provider believes the employee needs to be reevaluated;
 - information from this program, including observations made during fit-testing and program evaluation, indicates a need for reevaluation; or
 - a change occurs in workplace conditions that may result in an increased physiological burden on the employee.
 - The employee has physical changes that may impact fit: weight loss, dental work, scarring, etc.

All examinations and questionnaires are to remain confidential between the employee and Medical Provider.

FIT-TESTING

Fit-testing is required for employees wearing respirators for protection against exposure to hazards found during the Work Hazard Analysis, i.e. welding fumes, cleaning boilers where dust levels exceed nuisance level, sweeping, crushing, cutting, chipping or mixing of refractory cement. etc. Employees who are required to wear respirators with tight fitting face pieces will be fit tested:

- Before starting work requiring the use of a respirator;

- Annually thereafter; and
- When there are changes in the employee's physical condition that could affect respirator fit such as obvious changes in body weight, facial scarring, extensive dental work, etc.

Employees will be fit-tested with the make, model and size respirator that they will actually be wearing. Employees will be provided with several models and sizes of respirators so that they can find the best and most comfortable fit possible.

GENERAL USE PROCEDURES

- Employees will use their respirators under conditions specified in this program, and in accordance with the training they received on the use of the respirator they will use.
- All employees will conduct user seal checks each time they wear their respirator. Employees will use either the positive or negative pressure check depending on which works best for them. They will use the seal check procedures described in Appendix B of OSHA's Respiratory Protection Standard.
- Employees are permitted to leave their work areas to clean their respirators, change filters or cartridges, replace parts or to inspect their respirators. Employees are instructed to tell their supervisor before leaving the work area.
- Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, missing dentures or any other condition that prevents them from achieving a good seal.

RESPIRATOR MALFUNCTION

For any malfunction of an air purifying respirator, such as breakthrough, face piece leakage, defective valves, etc., the respirator user will leave the exposure area immediately and report the malfunction to his or her supervisor. The supervisor will ensure that the respirator is properly repaired or replaced before the user returns to work.

CLEANING

Respirators will be cleaned and disinfected regularly. Respirators are issued for the exclusive use of an employee and shall be kept cleaned while not in use.

- Disassemble respirator by way of removing used cartridge.
- Wash the face piece and associated parts in a mild detergent with warm water.
- Rinse thoroughly in clean warm water.
- Wipe the respirator dry, you may also use disinfectant wipes of 70% isopropyl alcohol after washing.
- Let the respirator dry in a clean area.
- Reassemble the respirator and replace any defective parts.
- Place the respirator in a clean, dry plastic bag.

MAINTENANCE

Respirators will be properly maintained at all times in order to ensure that they function properly and adequately protect the employee. As part of the maintenance program respirators will be inspected for

cleanliness and defects. Worn or deteriorated parts will be replaced prior to respirator use. No components will be replaced or repairs made beyond those recommended by the manufacturer. The manufacturer will conduct repairs to regulators and/or alarms of atmosphere-supplying respirators. Respirators will be inspected for the following:

Face pieces:

- Cracks
- Tears
- Holes
- Distortion
- Cracked or loose lenses/face shields

Head straps:

- Breaks
- Tears
- Broken Buckles

Valves:

- Residue/dirt
- Cracks
- Tears

Filters/Cartridges:

- NIOSH approval designation
- Gaskets
- Cracks in housing
- Dents in housing
- Appropriate cartridge for hazard

Employees should leave their work to:

- wash their faces and respirator face pieces when skin irritation occurs;
- replace filter, cartridge or canister;
- when they detect leakage in the face piece; and
- for any other damage that occurs to the respirator.

CHANGE SCHEDULES

Employees wearing respirators shall change the cartridges on their respirators:

- any time they begin to experience difficulty in breathing;
- any time they smell or taste a chemical substance; and
- at the end of each work day to ensure the continued effectiveness of the respirator.
- Branch Service Manager must ensure that all cartridges are changed according to the schedule.

STORAGE

Respirators will be stored in a clean, dry area in accordance with the manufacturer's recommendations. Each employee will clean and inspect his or her own air-purifying respirator in accordance with the provisions of this program and will store respirators in plastic bags and place them in their service vehicle.

DEFECTIVE RESPIRATORS

Respirators that are defective or have defective parts will be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he or she will bring the defect to the attention of his or her supervisor. Supervisors will give defective respirators to the Branch Service Manager. The Branch Service Manager will confer with the Safety Manager who will determine what action should be taken, i.e.:

- temporarily take the respirator out of service until repairs can be made;
- perform a simple on-the-spot repair; or
- dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged “out of service,” and the employee will be given a replacement of the same make, model and size. All tagged out respirators will be kept the parts department of each branch office.

PROGRAM EVALUATION

The Branch Service manager will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their supervisors, site inspections, air monitoring and a review of records.

Problems identified will be reported to Tate Engineering Systems management and will include recommendations to correct the deficiencies in the program, as well as a target date for the implementation of those corrections.

DOCUMENTATION AND RECORD KEEPING

A written copy of this program and a summary of OSHA’s Respiratory Protection Standard are kept electronically on the Tate intra net by the Safety Manager. The program is available to all employees who wish to review it. Applicable records (e.g. air sampling, medical surveillance) will be kept by the Branch Service Manager and HR.

Copies of training records and fit-test records are kept in HR and with the Safety Manager. These records will be updated:

- as new employees are trained;
- as existing employees are retrained; and
- as new fit tests are conducted.

The completed medical questionnaire and documented medical findings are confidential and will remain in the possession of the Medical Provider. Tate Engineering Systems will retain only the written recommendations regarding each employee’s ability to wear a respirator.

TRAINING

Employees will be trained at time of hire and retrained annually or as needed, such as when it becomes necessary to use a different type of respirator. Employees will be required to demonstrate their understanding of the topics covered in the training through hands-on exercises. Respirator training will be documented by the Safety Manager. The Safety Manager provides training to respirator users and their supervisors on:

- this Respiratory Protection Program;
- their responsibilities under the program;
- OSHA's Respiratory Protection Standard;
- the respiratory hazards identified at this job site;
- proper selection and use of the respirators to be used;
- limitations of respirators;
- respirator donning;
- positive and negative fit checks;
- fit-testing;
- emergency procedures;
- maintenance and storage; and
- medical signs/symptoms limiting the effective use of respirators.