

Personal Protective Equipment

1.0 Purpose

The purpose of the personal protective equipment procedure is to:

- 1.1 Eliminate or minimize the employee's occupational exposure to the eyes, face, head, foot, hand and body hazards.
- 1.2 Comply with the OSHA- PPE standard CFR 1910.132.
- 1.3 Provide for the procurement, distribution and use of approved PPE that is applicable and suitable to protect employees from potential hazards.
- 1.4 Provide a program of identifying and measuring work areas with potentially hazardous atmospheres.
- 1.5 Establish a training program for employees in the proper use of various types of PPE.
- 1.6 Establish a program of feasible and practical engineering and administrative controls so whenever possible the exposure of the employees to potentially hazardous atmospheres will be eliminated.

2.0 Scope

Waupaca Foundry, Inc. Health Services Department, in conjunction with the Safety Department, will assess the workplace to determine if hazards that require the use of personal protective equipment are present or likely to be present. If the hazards, or the likelihood of hazards, are found, Waupaca Foundry, Inc. will select and have affected employees use the appropriate personal protective equipment suitable for the hazard identified. Training and fit testing to assure the employee has the knowledge of the items proper use, limitations, fit, maintenance and care will be completed as required.

- 2.1 Waupaca Foundry, Inc. will certify, in writing, that a workplace hazard assessment has been performed. The Safety Coordinator and/or the Health Services Nurse may certify workplace hazard assessments.
- 2.2 This procedure is to be followed by any employee, visitor, or contractor whose job duties require the use of personal protective equipment.
- 2.3 Defective or damaged personal protective equipment shall not be used.
- 2.4 Employees working in the Hot zone should refer to specific departmental PPE hazard assessments to reference the PPE that is required for their area and job tasks.
- 2.5 A listing of the Personal Protective Equipment available at Waupaca Foundry, Inc., along with a list of the job classifications, and a hazard assessment for each job classification is maintained by the Health Services and/or Safety department of each plant location.

3.0 Definitions and Abbreviations

ANSI: American National Standards Institute

Chaps: Long leggings worn over pants from the waist to the ankle, often open in the back

FR: Flame Resistant

CFR: Code of Federal Regulations

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PPE: Personal Protective Equipment

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Hot Zone: The areas of the plant subject to work with molten iron as a part of the every day job duties. This includes the Melt department, the Vertical Molding Machine (VMM) department, and any area where the Hot Metal Carrier (HMC) travels with molten iron.

4.0 Forms

HSF 4-0017 PPE Blank Evaluation (AFS/OSHA)

HSF 4-0018 PPE Job Specific Evaluation / Completed

5.0 Specific Personal Protective Equipment guidelines

5.1 Head Protection

Head injuries are caused by falling or flying objects or by bumping the head against a fixed object.

- 5.1.1 Waupaca Foundry, Inc. has a selection of hardhats that provide additional protection from heat and electrical shock.
- 5.1.2 Employees in the Maintenance department, Melt Department, VMM department as well as foremen, visitors, and employees who move to a variety of areas within the plant are required to wear a hardhat.
- 5.1.3 Designated areas such as the maintenance shops may be evaluated so that hardhats are not required while working in that specific location.
- 5.1.4 Employee working in the Hot zone are required to wear High heat helmets. VMM operators may replace the hardhat with a FR ball cap while working at the machine only.

5.2 Eye and Face Protection

5.2.1 Suitable eye protection must be provided where there is a potential for injury, to the eyes or the face, from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, potentially injurious light radiation, or any combination of these. (Contact lenses are allowed in the plant if proper safety eyewear is worn in addition.)

5.2.2 ANSI approved Z87.1 approved tight fitting goggles or gasket type seal safety glasses (tight fitting) is the minimum requirement in all areas of the plant.

5.2.3 Dark lenses (anything other than clear) are permitted only for those employees who are required to face the molten iron. AFS recommends a shade # 3-5 green for working with the molten iron. Photochromic (e.g. transitional lenses) are also not allowed for indoor work and may be approved only for outdoor work where movement inside to/from outside does not occur.

5.2.4 While moving to and from their work stations, these employees are required to wear safety glasses with clear lenses.

5.2.5 Dark lens and welding helmets are available for use during torching and welding operations.

5.2.6 Personnel involved in the processing of castings or other grinding activities (cup grinding, pencil grinding, bench grinding, chiseling, hot check, scrap check, grinding line activities, or other finishing tools) and welding activities such as chipping slag, must wear two forms of eye protection. Examples include glasses/tight fitting goggles, or air hood with glasses or goggles beneath, or glasses/goggles with a face shield over.

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5.2.7 Employees are evaluated by the Health Services department and assigned specific eye protection that provides the best fit. If an eye injury occurs they will be reevaluated with regard to PPE for eye and face protection.

5.3 Ear Protection

Exposure to high noise levels can cause hearing loss or impairment. There is no cure for noise induced hearing loss, so the prevention of excessive noise exposure is the only way to avoid hearing damage. Specifically designed protection is required, depending on the type of noise that is encountered and the auditory condition of the employee.

Hearing protection is required in the plant and for all sound levels greater than 85 decibels. For decibels greater than 100, employees are required to wear two forms of hearing protection (muffs and ear plugs). Noise levels of 100dB or greater are typically found in the shake out operations.

For more information reference HSCWI 3-0029 policy on Waupaca Foundry, Inc. Hearing Conservation.

5.4 Respiratory Protection

Regulations concerning the control of occupational diseases caused by breathing air contaminated with harmful dust, fog, fumes, mists, gases, smokes, sprays, vapors, or in oxygen deficient environments can be found in OSHA Standard - CFR 1910.134.

5.4.1 Industrial Hygiene testing is completed annually by the environmental department. Respirator protection is then recommended or mandated based on the results of the Industrial Hygiene monitoring.

5.4.2 Appropriate training on respirator use is completed annually.

5.4.3 For more information, reference HSCWI 3-0028.

5.5 Torso Protection

Many hazards can threaten the torso: heat, splashes from hot metals and liquids, impacts, cuts, acids, and radiation.

5.5.1 A variety of protective clothing is available in the form of chaps, pants, jackets, aprons, and coveralls.

5.5.2 Employees involved in the Uniform program will have the choice of long sleeved 100% cotton, 100% cotton treated with FR (Flame Retardant), or the Indura Ultra Soft (88% cotton and 12% nylon) treated with FR. Note: Uniform shirts should not be altered. For example, cutting off the sleeves, or cutting the sides of the shirt open.

5.5.3 All employees are encouraged and trained to wear 100% cotton undergarments and 100% cotton clothing if not involved in the uniform program.

5.5.4 Employees working in the Hot zone are required to wear long sleeve FR shirts with no open pockets, long FR pants or FR jeans without cuffs, 100% cotton socks and undergarments. They may also wear FR outer jackets available from our uniform vendor.

5.5.5 The minimum PPE requirement in all NON- hot zone areas will be further defined as a t-shirt or Uniform shirt. A t-shirt is the standard t-shirt with a sleeve (short sleeve, or long sleeve) and covering the midriff. (belly area). For example - Tank tops, sleeveless t-shirts, or t-shirts that have been altered with sides cut open, or shortened exposing the person's back or front are NOT allowed.

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5.6 Hand and Arm Protection

Hand protection shall be worn at all times, except where the hands are not used or exposed to hazards (i.e. walking, standing, writing, or computer entry). It is presumed by Waupaca Foundry, Inc. that all employees' hands are exposed to hazards (laceration, abrasion, puncture, crushing, chemical contact, electrical, etc.) when being used to touch or handle tools, equipment, materials, or debris.

Any exceptions to the policy must be approved by the Plant Safety Manager. Examples of exceptions may be work with rotating or reciprocating equipment where there may be a hazard of the glove becoming entangled in the equipment.

Waupaca Foundry, Inc. will determine what hand protection their employees need. The work activities of the employees should be studied to determine the degree of dexterity required, the duration, frequency and degree of exposure to physical hazards and the physical stresses that will be applied. The protective device (gloves, sleeve, hand pads etc.) should be selected to fit the job.

5.6.1 Kevlar/Cotton sleeves are provided and should be worn by all employees involved in the handling of hot castings. Additional hand and arm protection requirements for specific job tasks performed in the Hot zone are addressed in the application specific PPE hazard assessments for those areas.

5.7 Foot and Leg Protection

For protection against falling or rolling objects, sharp objects, molten metal/sparks, hot surfaces, or wet and slippery surfaces, workers should use appropriate foot wear. All employees are required to wear sturdy safety shoes with steel toes that are made from natural materials such as leather. Employees that may be exposed to falling items (castings, cores, parts) must also have metatarsal guards to protect the top of their foot beyond the toe. The metatarsal guard may be internal or external; however the external guard is more likely to capture a spark/molten splash. This includes employees of the mill room, coreroom, melt, VMM and maintenance departments. Kick off boots with elastic sides are prohibited unless the elastic is covered to prevent it from melting if exposed to heat or molten iron.

6.0 Supply and Selection of PPE

Changes to PPE selection must be approved by the Plant Safety Manager, along with the Corporate Safety Director.

6.1 Personal Protective Equipment is supplied from the plants stockroom. Each department has an assigned area where their supplies are stored and maintained.

If an employee requests a specific piece of equipment that is not available in their department, they may obtain the equipment from the main stockroom. If the employee uses the equipment frequently, his/her foreman may have the item added to the departmental supplies.

7.0 Other Considerations

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7.1 Long Hair, Loose Fitting Clothing, Jewelry & Rings, Neckties:

Long Hair that could become entangled in equipment should be tied back and secured to prevent it from becoming caught or entangled in moving machinery components. It is also advised that rings, body piercing, and other jewelry be removed before entering the plant. Loose fitting clothing, such as shirttails can be easily caught in moving machinery and should be tucked in.

7.2 Visitors PPE:

Visitors and contractors to our plant are required to wear a hard hat, tight fitting goggles or gasket type seal safety glasses (tight fitting), hearing protection, long sleeves, long pants and closed toe shoes. If entering the hot zone, the visitor must in addition, be equipped with a High Heat hard hat, and a FR jacket.

8.0 Training

8.1 Employee Training:

Before completing work requiring the use of PPE, employees will be trained to know when PPE is necessary, what type of PPE is necessary, how it is to be worn, what the limitations of the PPE are, as well as proper care and maintenance of the PPE, and it's useful life and proper disposal.

8.1.1 Training may be completed during pre-employment health screenings, new employee orientation, and during monthly employee safety talks. Periodic visual assessments of proper use and effectiveness will be completed by the Safety Department, Lead group members, and Behavior Based Safety observations.

8.1.2 Training will be documented to include the employees name, date of training, and subject of training. The content of the training will include at a minimum:

8.1.2.1 What the hazard is, and when and what type of PPE is necessary for protection.

8.1.2.2 Discussion of the best equipment for specific job duties.

8.1.2.3 Review of equipment available from the stockroom supply, and procurement procedures to get the equipment.

8.1.2.4 Demonstration of the proper fitting and use of equipment. How to properly don, doff, adjust and wear that PPE.

8.1.2.5 Discussion of the limitations of PPE. The frequency that it should be replaced, proper care and storage, maintenance, useful life, disposal and inspection of equipment prior to using.

8.1.3 Additional training and requirements for specific equipment (ie: respirator medical clearance and fit testing)

8.2 Retraining

Retraining of employees will occur when any of the following situations takes place:

8.2.1 Changes in the work place render previous training obsolete.

8.2.2 Changes in the PPE make previous training obsolete.

8.2.3 Previous training is proven to be ineffective.