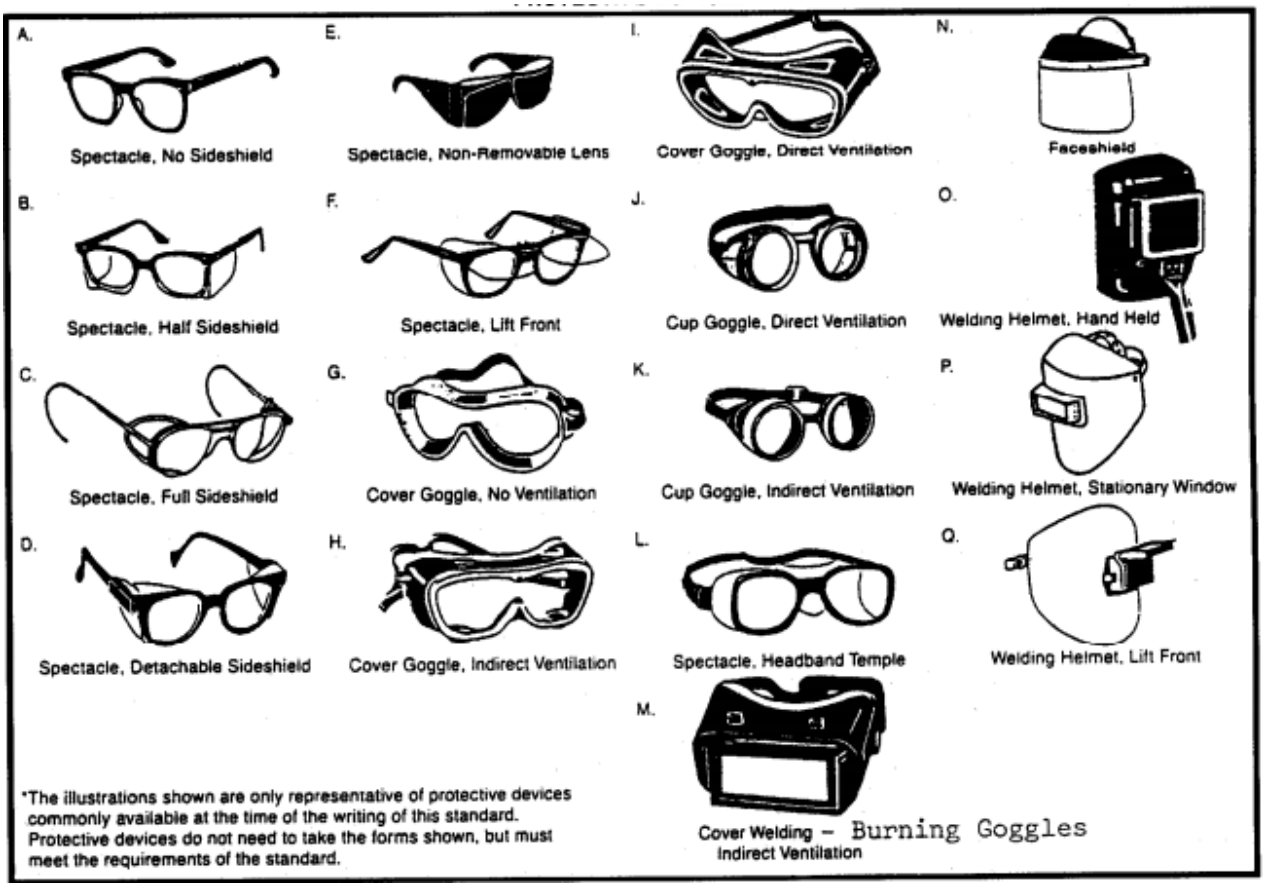
PPE Selection Information and Hazard Assessment

TABLE 1. EYE AND FACE PROTECTION SELECTION



SOURCE OF HAZARD	ASSESSMENT OF HAZARD	TYPE	PROTECTION (see notes on next page)
IMPACT – chipping, grinding, machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding	Flying fragments, objects, large chips, particles, sand, dirt, etc.	B, C, D, E, F, G, H, I, J, K, L, N	Spectacles with side protection, goggles, face shield. See note (1), (3), (5), (6), (10). For severe exposure, use face shield.
HEAT – furnace operations, pouring, casting, hot dripping, and welding	Hot sparks	B, C, D, E, F, G, H, I, J, K, L, N	Face shields, goggles, spectacles with side protection. For severe exposure, use face shield. See notes (1), (2), (3)
	Splash from molten metals	N	Face shields worn over goggles. See notes (1), (2), (3)
	High temperatures	N	Screen face shields, reflective face shield. See notes (1), (2), (3)

CHEMICALS – acid and chemical handling, use of cleaning products, paint use and clean-up products, pesticide and herbicide use	Splash	G, H, K	Goggles. For severe exposure, use face shield. See notes (3), (11)
	Irritating mists	G	Special-purpose goggles
DUST – woodworking, buffing, general dusty conditions.	Nuisance dust	G, H, K	Goggles, or spectacles with side protection. See note (8)
LIGHT and/or RADIATION – welding: electric arc.	Optical radiation	O, P, Q	Welding helmets or welding shields. Typical shades: 10-14. See notes (9) (12)
- welding: gas	Optical radiation	J, K, L, M, N, O, P, Q	Welding goggles or welding face shield. Typical shades: gas welding 4-8, cutting 3-6, brazing 3-4. See note (9)
-cutting, torch brazing, torch soldering	Optical radiation	B, C, D, E, F, N	Spectacles or welding face shield. Typical shades: 1.5-3. See notes (3), (9)
-glare	Poor vision	A, B	Spectacles with shaded or special purpose lenses, as suitable. See notes (9), (10)

NOTES FOR TABLE 1.
EYE AND FACE PROTECTIONS SELECTION

1. Care should be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards should be provided. Protection devices do not provide unlimited protection.
2. Operations involving heat may also involve light radiation. As required by the standard, protection from both hazards must be provided.
3. Face shields should only be worn over primary eye protection (spectacles or goggles).
4. As required by the standard, filter lenses must meet the requirements for shade designation in OSHA 1910.133(a)(5). Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
5. As required by the standard, persons whose vision requires the use of prescription (Rx) lenses must wear either protective devices fitted with prescription (Rx) lenses or protective devices designed to be worn over regular prescription (Rx) eyewear.
6. Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments may represent an additional hazard to contact lens wearers.
7. Caution should be exercised in the use of metal frame protective devices in electrical hazard areas.
8. Atmospheric conditions and the restricted ventilation of the protector can cause lenses to fog. Frequent cleansing may be necessary.
9. Welding helmets or face shields should be used only over primary eye protection (spectacles or goggles).
10. Non-side shield spectacles are available for frontal protection only, but are not acceptable eye protection for the sources and operations listed for “impact.”
11. Ventilation should be adequate, but well protected from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation and protects the wearer from splash entry.

12. Protection from light radiation is directly related to filter lens density. See note (4). Select the darkest shade that allows task performance.

TABLE 2. FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY

Operations	**Electric Size 1/32 in.**	**Arc Current (amps)**	**Minimum* Protective Shade**
Shielded metal arc welding	Less than 3 3-5 5-8 More than 8	Less than 60 60-160 160-250 250-550	7 8 10 11
Gas metal arc welding and flux cored arc welding		Less than 60 60-160 160-250 250-550	7 10 10 10
Gas Tungsten arc welding		Less than 50 50-150 150-500	8 8 10
Air carbon Air cutting	Light Heavy	Less than 500 500-1000	10 11
Plasma arc welding		Less than 20 20-100 100-400 400-800	6 8 10 11
Plasma arc cutting	Light** Medium** Heavy**	Less than 300 300-400 400-800	8 9 10
Torch soldering Torch brazing Carbon arc welding			2 3 14

Operation	**Plate thickness – inches**	**Thickness – mm**	**Minimum* Protective Shade**
Gas welding: -Light -Medium -Heavy	 Under 1/8 18 to 1/2 Over 1/2	 Under 3.2 3.2 to 12.7 Over 12.7	 4 5 6
Oxygen Cutting: -Light -Medium -Heavy	 Under 1 1 to 6 Over 6	 Under 25 25 to 150 Over 150	 3 4 5

* As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.
** These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the work piece.

Personal Protective Equipment (PPE) Survey and Analysis

Department: _____ Location: _____
Job Classification: _____ Operation/Process: _____
Person performing assessment: _____ Title: _____

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of body	Hazard	Required PPE	Notes
Hands	❒ Penetration – sharp objects	❒ Leather/cut resistant gloves	
	❒ Penetration – animal bites	❒ Leather/cut resistant gloves	
	❒ Penetration – rough objects	❒ General purpose work gloves	
	❒ Penetration – knives	❒ Metal mesh, Kevlar, steel mesh, heavy leather	
	❒ Chemicals _____	❒ Chemical resistant gloves ❒ Type _____	
	❒ Extreme cold	❒ Insulated gloves	
	❒ Extreme heat	❒ Heat flame resistant gloves	
	❒ Blood	❒ Nitrile gloves	
	❒ Electrical shock	❒ Insulated rubber gloves ❒ Type _____	
	❒ Product contamination	❒ Plastic, cotton, nylon	
	❒ Other	❒ Other _____	
Eyes and Face	❒ Impact-flying objects, chips, sand or dirt	❒ Safety glasses w/side shield, goggles w/face shield	
	❒ Nuisance dust	❒ Unvented chemical goggles	
	❒ UV light welding, cutting, torch brazing or soldering	❒ Welding goggles ❒ Welding helmet/shield w/safety glasses & side shields	
	❒ Chemical – splashing liquid	❒ Chemical goggles/face shield	
	❒ Chemical – irritating mists	❒ Unvented chemical goggles	
	❒ Hot sparks – grinding	❒ Safety glasses w/side shields ❒ Safety goggles w/side shields	
	❒ Splashing molten metal	❒ Safety goggles w/face shield	
	❒ Glare/high intensity light	❒ Shaded safety glasses	
	❒ Laser operations	❒ Laser goggles or glasses	
	❒ Other	❒ Other	
Ears	❒ Exposure to noise levels >85 dBA 8 hour TWA	❒ Ear muffs or plugs	
	❒ Exposure to noise levels >105 dBA 8 hour TWA	❒ Ear muffs AND plugs	
	❒ Exposure to sparks	❒ Leather	
	❒ Other	❒ Other	

Respiratory System	❒ For comfort for nuisance dust/mist	❒ Disposable dust/mist mask	
	❒ Welding fumes	❒ Respirator w/P100 filter	
	❒ Asbestos	❒ Respirator w/P100 filter	
	❒ Pesticides	❒ Respirator w/cartridges as per pesticide label	
	❒ Paint Spray	❒ Respirator w/OV/P100	
	❒ Organic Vapors	❒ Respirator with organic vapor cartridges	
	❒ Acid gases	❒ Respirator w/acid gas cartridges	
	❒ Oxygen deficient/toxic or IDLH atmosphere	❒ SCBA or type C airline respirator	
Feet	❒ Impact-heavy objects	❒ Steel toe safety shoes	
	❒ Compression-rolling or pinching objects/vehicles	❒ Leather boots or safety shoes w/metatarsal (top of foot) guards	
	❒ Slippery or wet surfaces	❒ Slip resistant soles	
	❒ Electrical hazards	❒ Electrical hazard shoes	
	❒ Explosive atmosphere	❒ Conductive footwear	
	❒ Penetration-sharp objects	❒ Puncture resistant soles	
	❒ Penetration-chemical	❒ Chemical resistant boots/covers	
	❒ Splashing-chemical	❒ Rubber boots/closed top shoes	
	❒ Exposure to extreme cold	❒ Insulated boots or shoes	
	❒ other	❒ other	
Head	❒ Object from overhead	❒ type I ANSI Z89.1-1997	
	❒ Impact to side of head	❒ Type II ANSI Z89.1-1997	
	❒ Struck by falling object ❒ Struck against fixed object ❒ Electrical contact with exposed wires/conductors	Hard Hat Class ❒ Class A/G ❒ Class B/E	
	❒ Special circumstances – no electrical protection	❒ Class C	
	❒ Hair entanglement, open flames	❒ Cap, hairnet, bandana	
	❒ Other	❒ Other	
Body	❒ Impact-flying objects	❒ Long sleeves/apron/coat	
	❒ Moving vehicles	❒ Traffic vest	
	❒ Penetration-sharp objects	❒ Cut resistant sleeve, wristlets	
	❒ Penetration-knives	❒ Metal mesh, Kevlar, steel mesh, heavy leather sleeves, wristlets, aprons	
	❒ Electrical-static discharge	❒ Static control coats/coveralls	
	❒ Hot metal or sparks	❒ Flame resistant jacket/pants, aluminized jackets/pants	
	❒ Chemical _____	❒ Lab coat or apron/sleeves	
	❒ Unprotected elevated walking/working surface	❒ Body harness, lanyard and connector	
	❒ Other	❒ Other	

Personal Protective Equipment
Hazard Assessment Certification

CMU
CENTRAL MICHIGAN UNIVERSITY

Job title_____ Date _____
Department _____ Supervisor _____
Location/Worksite _____ Signature _____
Employee Name(s) _____

Tasks, Job Classifications or Workstation	Potential Hazard	PPE required (Yes/No)	Type of PPE Required

Central Michigan University

Certification of Personal Protective Equipment Training

I _____ certify that the following affected employees have received and understood personal protective equipment (PPE)
(print full name)
training, which includes the following: when PPE is necessary; what PPE is necessary; how to properly don, doff, adjust, and wear PPE; the limitations of the PPE; and the proper care, maintenance, useful life, and disposal of the PPE. Each of the affected employees has demonstrated an understanding of the above and an ability to use the PPE properly. This training is in compliance with 29 CFR 1910.132 (f).

Name	Signature	Equipment Type	Date of Training