JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP

JOB DESCRIPTION: OPERATING AN ANGLE GRINDER

TASK STEP	HAZARD(S)	CONTROLS
1. Check cord integrity.	Electrocution, burns	Wear leather gloves. Inspect before plugging in tool; take Out-of-service if damage is observed.
2. Check conditions of grinding wheel and appropriate RPM.	None foreseen	Remove damaged wheels from service
3. Check grinding wheel tightness.	Hand injury from inadvertent starting	Do not plug in the machine until inspection is complete.
4. Verify the guard is tight and appropriate for the job.	Foot injury from dropping the tool; hand injury	Tighten or install appropriate guard.
5. Verify the appropriate handle location.	Foot injury from dropping the tool	Change handle location based upon user.
6. Inspect trigger for physical damage and proper operation.	None foreseen	
7. Make sure the materials being ground are adequately secured and positioned correctly.	Injuries associated with the work propelled by the grinder and/or landing on you	Verify the work is adequately secured by trying to dislodge it with a gloved hand (the work weight may secure it enough).

Required Training:

1. Operation of the angle grinder
2. Hearing protection
3. Eye protection

Shop Supervisor approval is required prior to use of this equipment.

Required Personal Protective Equipment (PPE)

1. Leather gloves
2. Eye and face protection
3. Body covering
4. Foot protection

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

JHA Library Number:

For more information about this JHA, contact:
Environmental Health, Safety and Risk Management
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JHA Continuation Sheet

Job Description: Operating an Angle Grinder

Task Step	Hazard(s)	Controls
8. Plug-in the grinder.	Eye and skin damage from projectiles.	Check the trigger switch to insure it is off.
9. Begin grinding.	Eye injuries from projectiles and sparks	Wear safety glasses/goggles and a face shield.
	Skin damage from sparks and projectiles	Wear leather gloves, long sleeved shirt, long pants, or leather welding guards.
	Hearing loss	Wear ear plugs.
	Ergonomic considerations.	Change position from time to time. Wear vibration resistant gloves.
	Inhalation of toxic or irritant fume or particulate	Wear the appropriate respirator based on the content of the metal and its coatings. Contact EHS-RM (5413) for evaluation and exposure assessment. Use localized exhaust to remove fumes and/or particulates

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: ANODIZING OPERATIONS

*Process uses sulfuric acid; personal protective equipment is required; review appropriate material safety data sheets prior to initiating operations.

TASK STEP	HAZARD(S)	CONTROLS
2. Prepare parts for anodizing	Cuts to hands and fingers from sharp edges	Do not slide finger or hand along sharp edges
2. Cleaning parts for anodizing	Chemical burns, splashing chemicals in eyes	Chemical goggles and face shield, butyl rubber gloves, and chemical resistant apron
3. Hanging parts in anodizing tank	Chemical burns, splashing	Wear appropriate Personal Protective Equipment
4. Remove parts from anodizing tank	Chemical burns, splashing	Wear appropriate Personal Protective Equipment
5. Dye and/or color in hot dye bath, then seal in hot water bath.	Burns	Wear appropriate Personal Protective Equipment
6.		
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Training in anodizing procedure; Shop Supervisor approval is required prior to anodizing operations.	Chemical goggles and face shield, chemical resistant gloves (butyl rubber) and apron; appropriate footwear.

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 20, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Anodizing Operations

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: BALDOR PEDESTAL BUFFING MACHINE

TASK STEP	HAZARD(S)	CONTROLS
3. Verify correct buffing wheels are properly installed and tightened.	Accidental start-up, potentially resulting in projectiles, entanglement.	Buffer power source must be disconnected (unplugged) prior to installing or tightening wheels
2. De-burr or polish material	Projectiles, sharp edges resulting in cuts/lacerations	Wear safety glasses Use correct application of work to buff or de-burr material; work must contact buffing or de-burring wheel in trailing position **(work must contact buffer or de-burring wheel in 3 to 5 o'clock position on wheel).**
3.	Dust inhalation	Dust mask required if using buffing compounds
4.	Entanglement	While operating the buffer, do not wear loose clothing or jewelry; long hair must be covered to prevent entanglement
5.		
6.		
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Baldor buffer training; Shop Supervisor approval is required prior to use of this equipment.	Safety glasses mandatory; respiratory protection (dust mask) as required.

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 12, 2011

JHA Library Number:

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1000 University Ave, Rm 157
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JHA Continuation Sheet

Job Description: Baldor Pedestal Buffing Machine

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
OSHA exclusion:	29 CFR 1910.215(a)(5) *Excluded machinery.* Natural sandstone wheels and metal, wooden, cloth or paper discs, having a layer of abrasive on the surface are not covered by this section. (1910.215 Abrasive wheel machinery)
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109 - 110

JOB DESCRIPTION: OPERATING A BAND SAW

TASK STEP	HAZARD(S)	CONTROLS
4. Check condition of blade.	Cutting fingers and hands	Avoid contact with blade teeth.
2. Align materials flat on table.	Pinching fingers or hands	Keep fingers and hands away from pinch points.
3. Adjust guard to no more than ¼ inch above top of material.	Pinching fingers or hands	Avoid pinch points between guard and housing and between guard and material.
4. Start dust collector as appropriate.	Cutting fingers and hands; hearing damage	Keep fingers and hands away from blade. Use push bar for smaller materials. Wear eye and hearing protection
5.		

Required Training:

1. Proper operation of band saw

Shop Supervisor approval is required prior to use of this equipment.

Required Personal Protective Equipment (PPE)

Safety glasses mandatory; hearing protection as required.

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 20, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating a Band Saw

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: OPERATING A BELT SANDER

TASK STEP	HAZARD(S)	CONTROLS
5. Turn on sanding belt.	Flying dust and debris in eyes Muscle strain	Wear safety glasses. Keep face and hands away from moving belts. Make sure guards are in place. Position body to maintain balance. Avoid twisting and overextending.
2. Align material with belt sander.	Cutting hand on metal or on moving belt	Don't hold sharp edges. Keep hands and fingers away from belts. Make sure guards are in place.
3 Bring material in contact with belt.	Flying glass debris and dust in face and eyes	Wear safety glasses and face shield.
4.	Belt breaking	Control amount of pressure exerted on belt and maintain balance. Make sure belt guards are in place.
5.	Cutting hand on moving belt	Keep hands and fingers away from moving belt. Make sure guards are in place.
6.		

Required Training:	**Required Personal Protective Equipment (PPE):**
1. Operation of belt sander Shop Supervisor approval is required prior to use of this equipment.	Safety glasses mandatory; hearing protection as required

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating a Belt Sander

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: OPERATING A BENCH GRINDER

TASK STEP	HAZARD(S)	CONTROLS
6. Check position of tool rests and condition of wheels.	Loose or poorly adjusted tool rests create pinching hazards.	Adjust and tighten tool rests.
	Cracked or broken wheels create projectile hazards.	Confirm wheels are not cracked or broken.
2. Turn on grinder.	Broken pieces of wheels striking operator.	Stand off to the side of the grinder when turning it on.
3. Grind object.	Abrasion and burns to fingers and hands	Keep fingers and hands away from wheels.
	Flying sparks and debris	Wear safety glasses Keep flammable materials away from grinding operation.
	Pinch to hand.	Keep fingers away from pinch points.

Required Training: Grinder training; Shop Supervisor approval is required prior to the use of this equipment.	**Required Personal Protective Equipment (PPE)**: Safety glasses

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating a Bench Grinder

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Questions related to OSHA Requirements (partial listing):	29 CFR 1910.215(a)(2) Do side guards cover the spindle, nut and flange and 75% of the wheel diameter? 29 CFR 1910.215(a)(4) Is the work rest used and kept adjusted to within 1/8-inch (0.3175cm) of the wheel? 29 CFR 1910.215(b)(9) Is the adjustable tongue guard on the top side of the grinder used and kept to within 1/4-inch (0.6350cm) of the wheel? 29 CFR 1910.215(d)(1) Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor? 29 CFR 1910.215(d)(1) Before new abrasive wheels are mounted, are they visually inspected and ring tested?
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING THE CHALLENGER HR 618 HAND FEED SURFACE GRINDER

TASK STEP	HAZARD(S)	CONTROLS
7. Make sure that the grinding wheel is appropriate for the job at hand.	Flying debris, projectiles from shattered wheel	Verify that the appropriate wheel is installed prior to commencing work.
2. Correctly install and support work on chuck	Flying debris, projectiles may result from improperly installed work.	Install and support work properly prior to commencing work.
3. Grinding operations	Flying debris, projectiles, severe hand injuries may result if contact with grinder is made.	Eye protection, respiratory protection (as required) Keep hands clear at all times.
4. Clean-up operations	Inhalation of grinding dust	Eye protection, respiratory protection (as required); use of fine particulate vacuum cleaner
5.		
6.		
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Hand feed Surface Grinder training; Shop Supervisor approval is required prior to use.	Eye protection mandatory; respiratory protection (dust mask) as required.

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 6, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Challenger HR 618 Hand Feed Surface Grinder

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: OPERATING A COLD SAW

TASK STEP	HAZARD(S)	CONTROLS
8. Check saw blade for sharpness, obstructions, properly functioning guard	Loose, obstructed, or dull blades or guards create pinching hazards	Adjust and tighten blades and guards Avoid contact with blade teeth.
2. If mitering, adjust saw to correct angle and lock securely in position.	Muscle strain, back injury	Use correct posture when swinging sawhead to the correct angle.
3. Adjust vise jaws	Hand injury	Use proper technique with wrench
4. Align materials flat in vise	Pinching fingers or hand	Keep fingers and hands away from pinch points
5. Clamp vise securely	None foreseen	
6. Ensure personnel protective equipment is utilized.	Noise, projectiles, sharp edges	Eye protection; hearing protection (as required)
7. Start and operate saw	Cutting fingers and hand	Keep fingers and hands away from blades.
Required Training: 1. Operation of cold saw Shop Supervisor approval is required prior to use of this equipment.	**Required Personal Protective Equipment (PPE):** Safety glasses mandatory; hearing protection as required	
Other Information:		
Created by: Eric Johansen, Bill Krause		
Date Created: April 5, 2011		
JHA Library Number:		

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JHA Continuation Sheet

Job Description: Operation of Cold Saw

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: COOLANT MIXER – RESERVOIR – SKIMMER –PUMP

*SERVES HAAS TL2 LATHE, TURNING CENTER AND VERTICAL MACHINING CENTER; USES CHEMSEARCH ULTRA-COOL 7000 EXTREME PRESSURE METAL WORKING FLUID (WATER SOLUBLE); REVIEW MATERIAL SAFETY DATA SHEET PRIOR TO USE. (RESERVOIR STORAGE CAPACITY – 50 GALLONS).

TASK STEP	HAZARD(S)	CONTROLS
9. Install mixer on storage tank	Back strain; pinched fingers	Use proper lifting technique.
2. Keep mixer in operation whenever tank contains coolant.	Lacerations, contusions resulting from contact with mixing propeller	Keep hands out of tank when mixer is in operation.
3. Transferring coolant to or from Hass equipment (storage reservoir is moved to close proximity to equipment)	Splashing; drenching	Wear personal protective equipment, Firmly control free end of supply hose.
4. Skimming oil from top of cutting fluid	Laceration or bruising of fingers	Keep fingers/hands away from moving parts of skimmer.
5. Containerize waste in Used Oil container	Splashing, spills	Wear protective equipment; avoid splashing; allow funnel to vent; call EHS-RM for used oil removal/disposal.
6. Clean-up	Slips and falls	Ensure any coolant or oil that has spilled on floor is immediately cleaned up.

Required Training:	**Required Personal Protective Equipment (PPE):**
Coolant system training; Shop Supervisor approval is required prior to using this equipment.	Safety glasses mandatory; chemical resistant gloves

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 12, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Coolant Mixer – Reservoir, Skimmer, Pump

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING THE DAREX XT 3000 TOOL SHARPENER

TASK STEP	HAZARD(S)	CONTROLS
10. Make sure machine is properly adjusted for the tool to be sharpened.	Potential for cuts or scrapes while adjusting	Use caution while adjusting machine
2. Install tool to be sharpened in holder	None foreseen	
3. Sharpen tool	Damage to fingers from grinding wheel; damage to eyes from flying debris	Keep fingers away from grinding wheel area; wear eye protection
4. Remove tool from holder	Cuts/lacerations from sharp edges	Keep fingers away from sharp edges
5.		
6.		
7.		

Required Training: Tool sharpener training and Shop Supervisor approval is required prior to using this tool.	**Required Personal Protective Equipment (PPE):** Eye protection
Other Information:	
Created by: Eric Johansen, Bill Krause	
Date Created: April 7, 2011	
JHA Library Number:	

For more information about this JHA, contact:
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JHA Continuation Sheet

Job Description: Darex XT 3000 Tool Sharpener

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM CARPENTRY SHOP – DUCKERING 110

JOB DESCRIPTION: OPERATING THE DI-ACRO BOX AND PAN BRAKE

TASK STEP	HAZARD(S)	CONTROLS
11. Properly adjust machine for thickness of material	Cuts from sharp burrs	De-burr edges of metal with file prior to use
2. Bend metal	Muscular back strain	Use both hands, keep back straight, ask for assistance if necessary.
3.		
4.		
5.		
6.		
7.		
Required Training: Precision metalworking machine training and Shop Supervisor approval is required prior to use of this equipment.	**Required Personal Protective Equipment (PPE):** Safety glasses	

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 7, 2011

JHA Library Number:

For more information about this JHA, contact:
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JHA Continuation Sheet

Job Description: Di-Acro Box and Pan Brake

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOPS – DUCKERING 109-110

JOB DESCRIPTION: OPERATING A DRILL PRESS

TASK STEP	HAZARD(S)	CONTROLS
12. Clean the table.	Eye injury from metal debris	Wear eye protection. Do not use compressed air.
2. Load the vise.	Foot injury if the vise falls	Secure the vise on the table with T-pins.
	Finger pinching while sliding the vise	Don't let your fingers get under the vise unless you are lifting it from the table. Keep your eyes on the task.
3. Lock the table in place.	Back strain	Don't lean over the table to twist the lock handle.
4. Install bit in chuck	None foreseen	
5. Tighten chuck and remove chuck key	Entanglement, projectile	Remove chuck key
6. Start the drill.	None foreseen	Keep hands away from rotating parts of equipment
7. Feed the drill.	Injury caused by breaking the bit	Feed with the appropriate pressure. Use the appropriate bit for the type of metal. Wear eye protection.

Required Training:	**Required Personal Protective Equipment (PPE)**
1. Operation of the drill press Shop Supervisor approval is required prior to use of this equipment.	Safety glasses mandatory

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

JHA Library Number:

For more information about this JHA, contact:
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JHA Continuation Sheet

Job Description: Operating a Drill Press

Task Step	Hazard(s)	Controls
7. Clean the table and surrounding area	Eye injury from metal debris	Wear eye protection Do not use compressed air

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: ELECTRIC WELDING OPERATIONS; STICK, MIG, TIG

* Ensure that all flammable and combustible materials are removed from the work area. A fire extinguisher with a minimum rating of 2A20B:C must be readily available to the welder. A fire alarm must be readily available. Ensure that ventilation is sufficient to eliminate inhalation hazard and avoid setting off a smoke detector fire alarm. Review safety precautions from manufacturer http://www.millerwelds.com/resources/safetyresources.html

TASK STEP	HAZARD(S)	CONTROLS
13. Close off welding area.	Flashing	Close welding curtain to shield outsiders from flashing.
2. Prepare for welding.	Inhalation of fumes	Turn on exhaust fan.
	Flashing	Wear welding hood.
	Sparks	Wear welding hood, jacket, gloves, work shoes.
	Slag splatter	Wear welding hood, jacket, gloves, work shoes.
3. Turn on power and unwrap leads.	Tripping	Take care to keep wire untangled and free from under feet.
4. Turn on shielding gas (MIG – TIG)	Regulator failure	Turn valve slowly; do not stand in front of regulator / guages

Required Training:

1. Operation of equipment to be utilized
2. Operation of a fire extinguisher
3. Location and use of the fire alarm

Shop Supervisor approval is required prior to use of this equipment.

Required Personal Protective Equipment (PPE)

1. Welding hood
2. Welding jacket
3. Gloves
4. Work shoes
5. Safety glasses for slag removal

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 12, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Electric Welding Operations; Stick, MIG, TIG

Task Step	Hazard(s)	Controls
5. Strike arc.	Flashing, sparks, slag splatter	Wear welding hood, welding jacket, gloves, work shoes.
6. Allow material to cool on workbench.	Burn to hands or fingers	Wear glove. Chalk mark welded area "Hot"
7. Stick welding: remove remainder of arc welding rod (if any) from handle, set aside on workbench to cool.	Burn to hands or fingers	Chalk mark welded area "Hot"
8. Shut compressed gas valves securely	None foreseen	
9. Wrap leads	Tripping	Take care to keep wire untangled and free from under feet.
10. Use chipping hammer to remove excess slag.	Eye damage by flying debris from hammer strikes	Wear safety glasses.
	Injuring fingers with hammer	Use caution to avoid striking fingers or hands with hammer.

Other JHA information

Photos	
Flow Charts:	
Other:	Access on-line safety information for Miller products at: http://www.millerwelds.com/resources/safetyresources.html
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: OPERATING THE ENGINE HOIST

TASK STEP	HAZARD(S)	CONTROLS
14. Transport hoist to location required	Back strain, damage to feet	Move hoist carefully, use proper posture, keep feet away from wheels
2. Attach lifting straps or slings to object to be lifted	Crushed fingers	Inspect straps or slings prior to use. Keep hands/fingers out from under object to be lifted
3. Connect hoist to object to be lifted	Damage to hands, fingers	Ensure object to be lifted is within capacity of hoist; ensure that the hoist is positioned to lift load vertically
4. Lift the load	Serious physical injury due to hoist overload; potential to tip over hoist if load is not lifted correctly	Ensure object to be lifted is within capacity of hoist; ensure that the hoist is positioned to lift load vertically
5. Move suspended load	Potential to tip over hoist, back strain	Load should be lifted just high enough to clear floor; preferably place dunnage on legs of hoist and rest load on dunnage during transport; move load slowly, exercising extreme care.
6. Set load down, disconnect hoist	Damage to hands, feet due to shifting load	Keep hands and feet clear of load
7.		

Required Training:

Training and Shop Supervisor approval is required during each use of the hoist.

Required Personal Protective Equipment (PPE):

Safety glasses

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 7, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating the Engine Hoist

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING THE FOUNDRY FOR SAND CASTING

TASK STEP	HAZARD(S)	CONTROLS
15. Prepare area for casting	Fire or explosion	Ensure all flammable materials are removed and all sources of water or moisture are removed from the area.
2. Prepare mold	Back injury, muscle strain	Obtain assistance for moving molds; use correct posture and lifting technique.
3. Inspect and test crucible prior to charging	Crucible failure potentially resulting in severe burn injuries	Ring test crucible prior to use
4. Charge metal into crucible	Cuts to fingers from sharp metal scraps	Wear gloves
5. Turn on furnace; set to melting temperature	None foreseen	
6. Lift crucible from furnace and set into pouring shank	Back strain, severe burns	Use tongs to lift crucible; use proper lifting technique, do not drop crucible;
7. De-gas metal	Burns and toxic fumes	Utilize localized exhaust; wear gloves

Required Training:

Furnace training and Shop Supervisor approval is required prior to use of the foundry.

Required Personal Protective Equipment (PPE):

Safety glasses, heat resistant gloves, foundry gear, appropriate footwear

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 7, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating the Foundry for Sand Casting

Task Step	Hazard(s)	Controls
8. Pour metal into mold	Burns, toxic fumes	Ensure localized ventilation is in use. Use appropriate PPE
9. Break castings out of mold	Burns	Use caution and appropriate PPE.

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING HAAS SL20 TURNING CENTER

TASK STEP	HAZARD(S)	CONTROLS
16. Ensure all correct tool and offsets are entered	Incorrect tool and offsets may result in collision causing flying debris/projectiles	Verify that all correct tool and work offsets are entered.
2. Install proper cutting tools for the specific job; ensure adequate clearance from chuck	Flying debris; projectiles	Verify that tools are installed properly and have adequate clearance form chuck.
3. Install work in chuck and ensure clamping pressure is adequate	Flying debris; projectiles	Verify chuck jaws conform to work and that clamping pressure is set.
4. Run program to test parts	Error in program may result in flying debris and projectiles	Ensure program is correct prior to initiating work.
5. Perform work	No hazard anticipated	
6. Clean-up using air hose, brush or rags	Flying debris; unexpected start-up of machine	Ensure machine is powered down or in edit mode; utilize eye and hearing protection
7.		
8.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Extensive training and Shop Supervisor approval is required before use of this equipment	Eye protection mandatory; hearing protection (as required)

Other Information:

Created by:

Date Created:

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating Haas SL20 Turning Center

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING HAAS TL2 LATHE

TASK STEP	HAZARD(S)	CONTROLS
17. Ensure that all tool and offsets are entered into control	Incorrect tool and offset may result in flying debris/projectiles	Verify correct tool and work offsets are entered in control.
2. Ensure that work is securely and adequately clamped in chuck	Unsecure work may result in flying debris/projectiles	Verify that work is securely and adequately clamped in chuck
3. Run Program	Programming error may result in flying debris/projectiles	Verify correct program
4. Ensure proper tool is installed at proper point in program.	Improperly installed tool may result in flying debris/projectiles	Ensure that proper tool is installed at proper point in program.
5. Make part	No hazard anticipated	
6. Clean-up using rags, brush and vacuum	Flying debris, lacerations, puncture wounds	Place control in edit mode prior to initiating clean-up; use eye and hearing protection; do not touch metal chips.
7.		
Required Training: Extensive training and Shop Supervisor approval is required prior to use of this equipment.	**Required Personal Protective Equipment (PPE):** Eye protection mandatory; hearing protection (as required)	
Other Information:		
Created by: Eric Johansen, Bill Krause		
Date Created: April 6, 2011		
JHA Library Number:		

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JHA Continuation Sheet

Job Description: Operating Haas TL2 Lathe

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING HAAS VERTICAL MACHINING CENTER

TASK STEP	HAZARD(S)	CONTROLS
18. Ensure all correct tool and offsets are entered.	Incorrect tool and offsets may result in collision causing flying debris/projectiles	Verify that all correct tool and work offsets are entered.
2. Ensure that work is securely clamped on vise, fixture or table	Unsecure work may result in flying debris/ projectiles	Verify that work is securely clamped on vise, fixture or table.
3. Ensure program is correct	Incorrect program may result in flying debris/projectiles	Verify that the program is correct
4. Machine parts required	No hazard anticipated	
5. Clean machine using air hose, brush, rags, or metal T-slot scraper	Flying debris; metal slivers	Place control in edit mode prior to conducting cleanup; wear eye and hearing protection (as required); do not touch chips
6.		
7.		
Required Training: Extensive training and Shop Supervisor approval is required prior to use of this equipment.	**Required Personal Protective Equipment (PPE):** Eye protection mandatory; hearing protection (as required)	

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 6, 2011

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JHA Continuation Sheet

Job Description: Operating Haas Vertical Machining Center

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: USING HAND OPERATED POWER TOOLS

TASK STEP	HAZARD(S)	CONTROLS
19. Check condition of the blade, if applicable.	Lacerations.	Avoid contact with blade teeth. Be sure the tool is unplugged.
2. Check that the guard is in working condition and in the proper position, if applicable.	Lacerations.	Avoid contact with blade teeth. Be sure the tool is unplugged.
3. Plug in power tool.	Injuries from starting tool when in the "on" position. Potential electrocution from cord in poor condition.	Ensure tool is in the "off" position before plugging in. Inspect condition of cord before plugging in. If cord is in poor condition, do not use the tool until the cord has been repaired.
4. Operating power tool.	Lacerations and other injuries.	Always use eye protection. Evaluate surroundings before turning on power tool and be aware of others. Make sure that cutting will not come into contact with any utilities. Don't wear loose clothing. Make sure the blade or bit is not binding as it goes into the work. If blade or bit is binding, cease operation of the tool and evaluate reasons for binding. Ensure that material being operated on is secured.
5. Unplugging power tool.	Lacerations.	Ensure tool is in the "off" position before unplugging.
6. Changing blade/bit/other tool parts.	Lacerations.	Ensure tool is unplugged before changing any part of the tool.
Required Training: Shop Supervisor Approval prior to use.	**Required Personal Protective Equipment (PPE)** **E**ye, hearing and respiratory protection when necessary.	
Other Information:		
Created by: Eric Johansen, Bill Krause		
Date Created: April 5, 2011		
JHA Library Number:		

JHA Continuation Sheet

Job Description: Using Hand Operated Power Tools

Task Step	Hazard(s)	Controls

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING THE HYDRAULIC PRESS

TASK STEP	HAZARD(S)	CONTROLS
20. Adjust height of bridge	Pinch hazards	Keep hands away from pinch points
2. Position support for job to be pressed.	Back strain, pinching fingers	Use care when positioning support.
3. Lifting material to be pressed into place.	Back strain, pinching fingers	Use proper lifting technique when locating materials in press.
4. Pressing on items to be removed, installed or formed	Material ejection; projectiles	Wear eye protection Ensure alignment of material to be pressed so that it is in a straight line with the ram.
5. Take precautionary measures while applying pressure	Material ejection; projectiles	Stand to one side of the press (not in front of the item being pressed). Use shielding if deemed necessary.
6. Remove material that was pressed.	Back strain, pinching fingers	Use proper lifting technique and care when moving objects.
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Hydraulic press training. Shop Supervisor approval is required prior to use of this equipment.	Eye protection

Other Information:

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Date Created: April 8, 2011

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JHA Continuation Sheet

Job Description: Operating the Hydraulic Press

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: KILN OPERATIONS

TASK STEP	HAZARD(S)	CONTROLS
21. Load and unload kilns:	Heavy lifting and can strain the body.	Proper lifting techniques put less strain on the body.
Ensure that combustible materials are a safe distance from the kiln area	Fire	Remove combustible or flammable materials from the kiln area
2. Firing kilns	Raising the temperature and shutting the lids have the potential to burn skin, clothing, and/or hair.	Always be alert when dealing with firings. Avoid touching any of the metal flashing around the kilns. Use leather gloves when opening the lid and shutting it to avoid the burns. Keep hair tied up and clothing close to the body when dealing with the heat.
Unloading the kiln	Potential to burn skin, clothing, hair	Allow materials to cool prior to removal

Required Training:	**Required Personal Protective Equipment (PPE):**
Shop Supervisor Approval is required before use.	Gloves, safety glasses

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

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JHA Continuation Sheet

Job Description: Kiln Operations

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING THE LUCIFER FURNACE

TASK STEP	HAZARD(S)	CONTROLS
22. Turn on furnace and set to desired temperature	None foreseen	
2. Charge steel to be heat treated into furnace	Burns	Use tongs, welding jacket, heat resistant gloves and eye protection
3. Remove items to be heat treated	Burns	Use tongs, welding jacket, heat resistant gloves and eye protection
4. Quench items in appropriate media	Burns	Use tongs, welding jacket, heat resistant gloves and eye protection
5.		
6.		
7.		

Required Training: Lucifer furnace training. Shop Supervisor approval is required prior to using this equipment.	**Required Personal Protective Equipment (PPE):** Welding jacket, heat-resistant gloves, eye protection, appropriate footwear.
Other Information:	
Created by: Eric Johansen, Bill Krause	
Date Created: April 8, 2011	
JHA Library Number:	

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JHA Continuation Sheet

Job Description: Operating the Lucifer Furnace

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING METAL LATHES

TASK STEP	HAZARD(S)	CONTROLS
23. Clamp material in chuck, ensuring that chuck key is removed after task is completed.	Failure to remove chuck key can result in entanglement and projectiles	Ensure chuck key is removed after clamping material.
2. Prior to starting lathe, ensure that the spindle is set to the correct speed.	• Projectiles, throwing of the material • Long stock can whip if set at the incorrect speed.	Ensure that the RPM is correct prior to starting lathe.
3, Lathe operation – turning material to size	Flying debris, lacerations from razor sharp chips.	Eye protection; keep hands clear
4. Cleanup of machine and surrounding area	• Lacerations from sharp chips • Accidental start up of the machine, possibly resulting in severe injury	• Shut off primary power prior to cleaning the machine • Eye protection • Use rags to cleanup chips; handle carefully • Do not use compressed air
5.		
6.		
7.		
Required Training: Lathe operations training; Shop Supervisor approval is required prior to use.	**Required Personal Protective Equipment (PPE):** Eye protection mandatory; hearing protection (as required).	

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 6, 2011

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JHA Continuation Sheet

Job Description: Operating Metal Lathes

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING MILLER SPECTRUM 500 DC PLASMA CUTTING SYSTEM

TASK STEP	HAZARD(S)	CONTROLS
24. Cutting Metal	Burns, arc flashing, inhalation of toxic fumes, dust or gas	Utilize localized exhaust, eye, hearing and respiratory protection
2.	Falling metal could impact feet and/or other body parts	Support work properly; do not locate feet or body parts beneath object being cut
3.	Fire	Ensure all combustible and flammable materials are removed from the work area prior to commencing operations
4.		
5.		
6.		
7.		

Required Training: Plasma cutting system training. Shop Supervisor approval prior to use is required**.**	**Required Personal Protective Equipment (PPE):** Welding goggles, hearing protection, respiratory protection (as required) and appropriate footwear.

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 6, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating Miller Spectrum 500 DC Plasma Cutting System

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING MILLING MACHINES

TASK STEP	HAZARD(S)	CONTROLS
25. Secure work on vise or table	Projectiles; unsecure work is ejected from the mill	Ensure work is securely and rigidly clamped prior to proceeding.
2. Ensure that the cutter selected is suitable for the job to be performed.	Flying debris from shattered cutter; projectiles	Ensure that the proper cutter is installed prior to commencing work. Use eye protection
3. Set correct RPM for the task to be performed	Flying debris; projectiles	Ensure correct Spindle RPM is selected prior to commencing work. Eye protection
4. Set correct Feed Rate for the task to be performed.	Flying debris; projectiles	Ensure correct Feed Rate is set prior to commencing work. Eye protection
3. Milling or drilling operations	Lacerations, amputation, entanglement	• Eye protection • Keep hands clear at all times
6. Clean-up of Mill	Lacerations, puncture wounds from needle sharp chips	Avoid contact with chips; use rags, metal scraper and vacuum cleaner (as appropriate) for cleaning mill
7.		

Required Training: Milling machine operations training. Shop Supervisor approval is required prior to use of milling machines	**Required Personal Protective Equipment (PPE):** Eye protection mandatory; hearing protection (as needed).

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 6, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating Milling Machines

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OXY-ACETYLENE TORCH OPERATIONS

* Flammable materials must be removed from the welding area. A fire extinguisher with a minimum rating of 2A20B:C must be readily available to the welder. A fire alarm must be readily available. Ensure that ventilation is sufficient to avoid setting off a smoke-detector fire alarm.

TASK STEP	HAZARD(S)	CONTROLS
26. Close off welding area.	None foreseen	
2. Prepare for welding.	Inhalation of fumes	Turn on exhaust fan and timer.
	Sparks	Wear welding jacket, apron, gloves, work shoes. Remove all flammable or combustible material from area.
	Slag splatter	Wear welding jacket, apron, gloves, work shoes.
3. Set gauges, turn on gas cylinders.	Pinching fingers and hands	Avoid pinch points
4. Clean tip, make sure hose valves are tight, unwrap hoses.	Pinching fingers; tripping on hoses	Avoid pinch points; keep hoses untangled and free from feet

Required Training:

4. Operation of oxy-acetylene equipment
5. Operation of a fire extinguisher
6. Location and use of the fire alarm

Shop Supervisor approval is required prior to equipment use.

Required Personal Protective Equipment (PPE)

6. Welding goggles or safety glasses as appropriate
7. Welding jacket
8. Gloves
9. Work shoes

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Oxy-Acetylene Torch Operations

Task Step	Hazard(s)	Controls
5. Use striker to light torch	Burning fingers, hands, body	Wear welding goggles, welding jacket, gloves, work shoes.
6. Apply flame to material.	Flashing, sparks, slag splatter	Wear welding hood, welding jacket, gloves, work shoes.
7. Allow material to cool on workbench.	Burn to hands or fingers	Wear gloves. Chalk mark welded area "Hot."
8. Close valves, bleed off regulators, wrap hoses.	Pinching fingers	Avoid pinch points.
	Tripping	Keep hoses untangled and free from feet.
9. Clean work area	Burns	Be aware of hot objects

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE AND CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: PAINTING OPERATIONS

*Always consult the product specific Material Safety Data Sheet prior to initiating painting operations. Utilize localized exhaust and wear appropriate personal protective equipment (PPE).

TASK STEP	HAZARD(S)	CONTROLS
27. Mix paint to be sprayed	Splashing, inhalation of fumes, fire	Ensure ignition sources are not present. Wear eye protection and appropriate gloves; Utilize localized exhaust system; Ensure that respiratory protection needs are appropriately assessed for the material to be applied (product specific). Consult product material safety data sheet prior to mixing paint.
2. Fill sprayer and connect air supply	Splashing; inhalation of fumes	Wear eye protection and appropriate gloves; utilize localized exhaust system and appropriate respiratory protection measures.
3. Adjust air supply to correct service pressure	None foreseen	
4. Apply paint	Tripping; injury from falling objects	Utilize exhaust and PPE. Ensure a clear work area is provided; position air hose to reduce tripping hazard; position and/or secure items to be sprayed to prevent object from falling; minimize overspray
5. Clean-up equipment	Contact with solvent, spillage, inhalation hazards	Utilize localized exhaust and PPE. Select product specific solvent for clean-up operations; containerize solvents for re-use; label appropriately; Contact EHS-RM (x5413) for paint/solvent waste disposal.

Required Training: Painting operations training; Shop Supervisor approval is required prior to commencing work.	**Required Personal Protective Equipment (PPE):** Eye protection; gloves and respiratory protection specific to the product being utilized.
Other Information:	
Created by: Eric Johansen, Bill Krause	
Date Created: April 21, 2011	
JHA Library Number:	

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JHA Continuation Sheet

Job Description: Painting Operations

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: OPERATING THE PARTS WASHER

- Contains Chevron 325; Review Material Safety Data Sheet prior to use.

TASK STEP	HAZARD(S)	CONTROLS
28. Lift lid and hold in place with fusible link	Pinched hands, fingers from falling lid	Ensure lid is secured
2. Place parts in washer	Back strain, pinched fingers	Use care when placing items in washer
3. Position spout to control flow of solvent	Splashing or spills	Ensure spout is correctly positioned; utilize eye protection and appropriate chemical resistant gloves.
4. Turn on pump, wash parts	Splashing or spills	Chemical resistant gloves; eye protection
5. Turn off pump, remove parts and close lid	Splashing or spills; back strain, pinched fingers	Use care when removing items from washer.
6.		
7.		

Required Training: Shop Supervisor approval is required prior to use.	**Required Personal Protective Equipment (PPE):** Wear eye protection and chemical resistant gloves

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 8, 2011

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JHA Continuation Sheet

Job Description: Operating the Parts Washer

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOPS – DUCKERING 109-110

JOB DESCRIPTION: OPERATING A PEDESTAL GRINDER

TASK STEP	HAZARD(S)	CONTROLS
29. Check position of tool rest and condition of wheels.	Loose or poorly adjusted tool rests create pinching hazards. Cracked or broken wheels create projectile hazards	Adjust and tighten tool rests. Confirm wheels are not cracked or broken.
2. Turn on grinder.	Broken pieces of wheels striking operator	Stand off to the side of the grinder when turning it on.
3. Grind object.	Abrasion and burns to fingers and hands	Keep fingers and hands away from wheels.
	Flying sparks and debris	Wear safety glasses . Ensure that all flammable or combustible materials are removed from the area prior to initiating work.
	Pinching hand	Keep fingers away from pinch points
4.		
5.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Shop Supervisor Approval is needed prior to commencing work.	Safety glasses mandatory

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

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JHA Continuation Sheet

Job Description: Operating a Pedestal Grinder

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Questions related to OSHA Requirements (partial listing):	29 CFR 1910.215(a)(2) Do side guards cover the spindle, nut and flange and 75% of the wheel diameter? 29 CFR 1910.215(a)(4) Is the work rest used and kept adjusted to within 1/8-inch (0.3175cm) of the wheel? 29 CFR 1910.215(b)(9) Is the adjustable tongue guard on the top side of the grinder used and kept to within 1/4-inch (0.6350cm) of the wheel? 29 CFR 1910.215(d)(1) Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor? 29 CFR 1910.215(d)(1) Before new abrasive wheels are mounted, are they visually inspected and ring tested?
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM CARPENTRY SHOP – DUCKERING 110

JOB DESCRIPTION: OPERATING THE PEXTO NO. 13 SHEAR

TASK STEP	HAZARD(S)	CONTROLS
30. De-burr edges of sheet metal to be cut	Cuts/lacerations	Use care when de-burring metal
2. Position metal to be cut in shear	None foreseen	
3. Step on foot treadle to cut material	Damage to fingers; back strain	Keep fingers away from hold down and knife. Step on treadle carefully; keep back straight
4. Retrieve pieces cut from shear; be aware that burrs are present on both pieces	Cuts from burrs	Use care when handling metal pieces
5. De-burr metal pieces with metal file	Cuts/lacerations	Use care when handling metal pieces; do not slide fingers or hands along edge of metal.
6.		
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Pexto-Shear training; Shop Supervisor approval is required prior to the use of this equipment.	Safety glasses

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 8, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operating the Pexto No. 13 Shear

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: PICKLING TANK OPERATIONS

*Pickling involves the use of a muriatic acid solution (approximately 4% concentration). Utilize appropriate personal protective equipment. Consult material safety data sheet (synonym: hydrochloric acid solution) prior to commencing pickling operations.

TASK STEP	HAZARD(S)	CONTROLS
31. Ensure steel item to be pickled is free from grease or oil; refer to Parts Washer job hazard analysis	Cuts, laceration for sharp edges or burrs	Handle with care; do not slide hand down sharp edges.
2. Attach steel item to be pickled to cord or wire for future removal from tank	Falling objects	Ensure cord or wire used is of sufficient strength and integrity to bear load.
3. Remove lid from pickling tank and immerse object in tank; secure cordage or wire beneath closed lid	Splashing; container failure	Immerse items slowly; do not drop; wear chemical goggles, face shield, butyl rubber gloves and chemical resistant apron.
4. After pickling is complete, remove steel from tank; allow excess liquid to drain back into tank; move item to rinse area; replace container lid.	Splashing	Wear chemical goggles, face shield, butyl rubber gloves and chemical resistant apron.
5. Rinse and scrub pickled materials	Splashing, falling objects, sharp edges	Handle with care; utilize personal protective equipment.
6.		
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Pickling operations training; Shop Supervisor approval is required prior to work.	Chemical goggles, face shield, butyl rubber gloves, chemical resistant apron

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 21, 2011

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JHA Continuation Sheet

Job Description: Pickling Operations

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: SAND BLASTING CABINET OPERATIONS

- Garnet abrasive

TASK STEP	HAZARD(S)	CONTROLS
32. Make sure materials to be sandblasted are clean, dry free from hydrocarbons or toxic metals, substances; or coatings.	Sand blasting operations create static charge; potential ignition source if hydrocarbons are present on material; can result in exposure to toxic materials.	Ensure materials to be sandblasted are clean, dry and free of solvents or other hydrocarbons. Do not sand blast materials that contain toxic metals, substances or coatings.
2. Place items to be blasted in sand blast cabinet; dust sight window (inside and outside surfaces).	Back strain	Use proper lifting techniques. Clean sight window allows work at arm length.
3. Close door and turn-on exhaust ventilators	Noise	Hearing protection is required
4. Place hands in cabinet gloves and proceed to sandblast material	None foreseen	Beware of sharp edges of materials to be sand blasted; Do not point gun at gloves.
5. Crack open cabinet slightly and wait for 5 to 10 seconds for dust to be removed by exhaust ventilator	Potential exposure to dust if cabinet not ventilated	Ventilate cabinet prior to removal of items being sand blasted.

Required Training:	**Required Personal Protective Equipment (PPE):**
Sand Blast Cabinet training; Shop Supervisor approval is required prior to use of this equipment.	Eye and hearing protection mandatory

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 11, 2011

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JHA Continuation Sheet

Job Description: Sand Blasting Cabinet Operations

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: OPERATING HAND OR FOOT-OPERATED SHEAR

TASK STEP	HAZARD(S)	CONTROLS
33. Align material.	Pinching hand and fingers	De-burr material. Do not slide hands along edges.
	Cutting hand	Keep hand and fingers from pinch point.
2. Depress foot treadle or arm lever as appropriate	Pinching hand, leg and foot	Keep hands, legs and feet free from support arms.
	Muscle strain	Position body to maintain balance. Maximize use of legs. Avoid twisting.
	Cutting hand	Beware of fresh, sharp edges.

Required Training:	**Required Personal Protective Equipment (PPE)**
1. Operation of foot or hand operated shear Shop Supervisor approval is required prior to use of this equipment.	Safety glasses

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 5, 2011

JHA Library Number:

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JHA Continuation Sheet

Job Description: Operation of Hand or Foot-Operated Shear

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: SPOT WELDING OPERATIONS

TASK STEP	HAZARD(S)	CONTROLS
34. Align material.	Cutting hand	Wear cut-resistant gloves and safety glasses De-burr test strips. Do not slide hands along edges.
	Pinching hand between welding tips	Wear cut-resistant gloves. Keep fingers from pinch point
2. Depress foot pedal to activate welder.	Cutting hand	Wear leather gloves.
	Pinching hand between welding tips	Wear cut-resistant gloves. Keep fingers from pinch point.
	Burning hands	Wear cut-resistant gloves.
	Flying sparks burning eyes	Wear safety glasses.
	Muscle strain	Position body to support material, and get assistance when necessary.
Required Training: 1. Operation of electric spot welder Shop Supervisor approval is required prior to use of this equipment.	**Required Personal Protective Equipment (PPE):** Safety glasses and cut-resistant gloves	
Other Information:		
Created by: Eric Johansen, Bill Krause		
Date Created: April 5, 2011		
JHA Library Number:		

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JHA Continuation Sheet

Job Description: Spot Welding Operations

Task Step	Hazard(s)	Controls
3. Remove material.	Cutting hand	Wear cut-resistant gloves. De-burr test strips. Do not slide hands along edges.

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING THE SWIF-MULL MULLER

TASK STEP	HAZARD(S)	CONTROLS
35. Unplug muller; lift lid	Back strain	Lift lid carefully
2. Charge sand to be mulled	Back strain	Use care when charging muller with sand
3. Close muller lid	Back strain, damage to fingers or hands	Use care when closing lid; do not drop lid
4. Start muller	None foreseen	
5. When sand is sufficiently mulled, discharge sand through bottom opening	Amputation	Keep hands clear from discharge opening
6. Cleaning operations (when required)	Amputation; disfigurement	Unplug muller prior to cleaning
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Muller training; Shop Supervisor approval is required prior to use of this equipment.	Eye protection

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 8, 2011

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JHA Continuation Sheet

Job Description: Operating the Swif-Mul Muller

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM CARPENTRY SHOP – DUCKERING 109

JOB DESCRIPTION: OPERATING A TABLE SAW

TASK STEP	HAZARD(S)	CONTROLS
1. Adjust the fence.	Failure to lock down fence after adjustment has potential to result in kickback injury	Verify fence is locked after adjustment.
2. Verify the blade to fence distance with a tape.	Cutting the hand on the blade	Keep your hand that is holding the tape case away from the blade.
3. Adjust the height and angle of the blade.	Back strain while turning the adjustment wheels. Cutting fingers or hand while saw is in operation	Properly adjust the blade height (recommended 1/8" above the stock).
4. Turn on the dust collector.	None foreseen	Ensure dust collector is activated.
5. Check the stock	Projectiles cutting stock	Check the stock for cracks or loose knots. Check the stock for nails or other fasteners and remove
6. Start the saw.	Projectiles from the rotating blade	Visually verify there no wood or other debris around the blade or in the path of the stock.
7. Start the cut	Projectiles from rotating blade.	Visually verify there is no wood or other debris around the blade or path of stock.

Required Training: Table saw training. Shop Supervisor approval is required prior to use of this equipment.	**Required Personal Protective Equipment (PPE):** Eye and hearing protection
Other Information:	
Created by: Eric Johansen, Bill Krause	
Date Created: April 5, 2011	
JHA Library Number:	

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JHA Continuation Sheet

Job Description: Operating a Table Saw

Task Step	Hazard(s)	Controls
Starting the cut (continued)	Stock kick-back	Verify the fence is parallel to the blade. Do not stand directly behind stock when feeding it through the saw.
	Eye injury	Wear eye protection.
	Hearing damage	Wear earplugs or earmuffs
8. Finish the cut.	Stock or scrap kickback	Remove the finished piece or scrap after the blade has stopped.
9. Turn off the saw and dust collector	None foreseen	10. Turn off the saw and dust collector

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM MACHINE & CARPENTRY SHOP – DUCKERING 109-110

JOB DESCRIPTION: USING VACUUM FOR EQUIPMENT/FLOOR CLEAN-UP

TASK STEP	HAZARD(S)	CONTROLS
36. Using vacuum	Fire, explosion	Never attempt to vacuum flammable or explosive dusts or liquids.
	Stringy materials (metal)	Do not vacuum stringy materials (clogs vacuum hose).
2. Emptying vacuum	Inhalation of dusts, sharp metal shavings, back strain	Use proper lifting technique; stay up wind of vacuum while dumping into receptacle. Avoid touching metal shavings.
4.		
5.		
6.		
7.		

Required Training:	**Required Personal Protective Equipment (PPE):**
Shop Supervisor approval is required prior to use of this equipment.	Safety glasses mandatory; hearing protection (as required)

Other Information:

Created by: Eric Johansen, Bill Krause

Date Created: April 13, 2011

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JHA Continuation Sheet

Job Description: Using Vacuum Cleaner for Equipment / Floor Clean-up

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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JOB HAZARD ANALYSIS

UNIVERSITY OF ALASKA FAIRBANKS

Safety Information for the University of Alaska, Fairbanks

DEPARTMENT: CEM CARPENTRY SHOP – DUCKERING 110

JOB DESCRIPTION: OPERATING THE WHITNEY-JENSEN MODEL 33 PUNCH

TASK STEP	HAZARD(S)	CONTROLS
37. Set-up punching die for job at hand	Pinched fingers	Install punch die and strippers carefully
2. De-burr edges of material to be punched	Cuts/lacerations	Use care when de-burring edges
3. Punch required holes in work	Pinching of fingers	Keep hands clear
4.		
5.		
6.		
7.		
Required Training: Whitney – Jensen Model 33 Punch training. Shop Supervisor approval is required prior to use of this equipment.	**Required Personal Protective Equipment (PPE):** Eye protection is mandatory; hearing protection (as required)	

Other Information:

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JHA Continuation Sheet

Job Description: Operating the Whitney-Jensen Model 33 Punch

Task Step	Hazard(s)	Controls

Other JHA information

Photos	
Flow Charts:	
Other:	
Other:	

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