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ESTABLISHED 1916

Job Hazard Analysis	JHA # 13
Job/Task Title: Spray Applied Fireproofing/ Patching	
Safe Job Procedure:	**Revised 1/2024**
This JHA is for the safe and successful application of Spray Applied Fireproofing. Special emphasis is placed on installing/repositioning tarps, proper scaffolding, housekeeping, and FSS respirator policies.	
Required PPE: Hard Hat, Safety Glasses, Hearing Protection, Hi-Vis, Cut-4 Gloves, Tyvek Suit, Work Boots, N95 Respirator While Mixing.	
Review JHA's 23,24,26,28,29,30,31: Powered Tools and Equipment, MEWP/ Aerial Lift, Material Handling, Scaffolding, Industrial/ Rough Terrain Forklift, Covering/Cleanup, Lock out – Tag out	

Step #1 Work Area Inspection

Steps to Complete Job	Hazards	Preventive Measures
Survey and set up the work area.	Workers can be cut on sharp materials, sharp edges, or equipment. Possible trips, falls, and being struck by loose debris or unsecure materials.	1) Hard Hat, Safety Glasses, Hi-Vis, Cut-4 Gloves, N95 Respirator (while mixing), Tyvek suit (mixing and application), and Work Boots.
		2) Identify, eliminate, or mark all trip hazards such as open holes, slippery conditions, rolling stock, or changes in elevations.
		3) Correct or note any changes in work area since last leaving it.
		4) Pickup loose materials and remove debris from work area.
Identify any stored energies in the work area that could be released due to the work being performed, or by being damaged.	Workers could release unknown or unsuspected energy due to damage, removal of system components, or exposure of system components.	1) Relocate stored energy components or system from work area.
		2) Deenergize and install LOTO (JHA #31) procedures to stored energy source.
		3) Install bulletproofing or mitigation to protect stored energy source.
		4) Barricade and tag area around stored energy source.

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Walk area to ensure that there is adequate lighting and electrical power supply.	Lack of lighting can impair the ability to see, causing trips, falls, cuts, etc. Lack of sufficient electrical power can cause circuit overloads and excessive number of electrical cords in the area.	1) Have temporary task lighting provided before work begins.
		2) Have temporary power provided before work begins.
		3) Minimize electrical cords in area. Verify the cords in use are rated for their expected use.
		4) All cords and lighting to be GFCI protected.
		5) All cords to be tested and marked according to current Assured Grounding protocol.
Coordinate work in the area with other trades.	Possible confusion and conflict due to multiple trades working in a limited area.	1) Communicate with other trades to avoid creating a hazardous situation by trade stacking. ***Coordination***
Step #2 Setting up Mixing/ Pump Area		
Steps to Complete Job	**Hazards**	**Preventive Measures**
Setting up material receiving area.	Worker will be exposed to strains, sprains, fall hazards, and trip hazards.	1) Stretch and flex before beginning of shift and after lunch. Stretch throughout the shift when needed to reduce or eliminate muscle strains.
		2) Organize material receiving area to accommodate incoming material transports.
		3) Barricade and secure material laydown. Secure stored materials against possible weather damage.
Setting up mixer/ Pump.	Worker will be exposed to pinch points, trips, and mixing/ pumping equipment.	1) Only trained and competent personnel are to setup, inspect and operate mixers and pumps.
		2) Inspect all pieces of equipment and fittings for defects or worn parts.
		3) Setup mixer and material to minimize lifting and twisting movements.
		4) Route hoses and airline to minimize trip hazards, also protect hose from abrading against adjacent surfaces.
		5) Secure bull whip to frame of pump.
		6) Tape air and alum hose every 3 feet to the pump hose.

		7) Setup equipment in a well-ventilated area to help disperse dust and exhaust fumes.
		8) Setup mixing and pumping operation in an area that has solid footing and can be continually cleaned of spillage.
		9) The area around the mixing and pumping operation must be protected against excess material spreading out.
		10) Restrict access to mixing and pumping area to FSS employees only.
		11) Operator to wear hearing protection and respirator. Respirator users must be fit tested by safety prior to using.
Step #3 Mixing		
Steps to Complete Job	**Hazards**	**Preventive Measures**
Mixing fireproofing materials.	Worker will be exposed to possible respiratory hazards, strains, sprains, electrical hazards, and pinch points.	1) Stretch and flex before beginning of shift and after lunch. Stretch throughout the shift when needed to reduce or eliminate muscle strains.
		2) Worker will wear N95 or half-face respirator while mixing and handling materials. Half-face respirator users must be fit tested by safety prior to use.
		3) Set up mixing area to minimize bending, twisting, lifting, and moving of materials.
		4) Utilize two handles on drill motor at all times while operating.
		5) Verify that electrical power is GFCI protected and an approved power source.
Step #4 Fireproofing Tarps		
Steps to Complete Job	**Hazards**	**Preventive Measures**
Installing and repositioning Fireproofing Tarps.	Worker will be exposed to slips, trips, and falls.	1) All installations must be overseen by a competent person.
		2) Competent person must inspect the area for any types of hazards and mitigate any hazard prior to any work.
		3) Before the tarp is installed or moved, the competent person will instruct the crew on the procedures needed to execute the move.
		4) The bottom of the tarp must have tag lines or be secured before the tarp is raised into position.
		5) No tarps are to be raised or repositioned when winds are at, or exceeding 15 mph sustained or gust over 20 mph.
		6) Have adequate manpower to facilitate the movement of the tarps smoothly.

		7) When the tarp is secured into position, a minimum of every other grommet is to be secured.
		8) A 10-foot buffer zone around tarps will be kept clear of material, scaffold, etc. This space is for movement of tarps in wind.
		9) Tarps are to be inspected before and at the end of each shift for being properly secured.
		10) Competent person is to assess current and future weather conditions, then secure tarps accordingly.
		11) When possible, tarps should be lowered and secured for upcoming storms or long weekends.
		12) Maintain awareness of slippery floor conditions due to water or overspray.
Step #5 Fireproofing Application		
Steps to Complete Job	**Hazards**	**Preventive Measures**
Spray applying fireproofing.	Worker will be exposed to possible falls, trips, slips, and high-pressure hoses.	1) Inspect work area before each shift and break for obstructions, penetrations, holes, and leading-edge conditions. Ensure trip hazards are clearly marked.
		2) Keep feet on scaffold deck at all times.
		3) Avoid overreaching.
		4) All fireproofing scaffolding will have a solid level deck and guardrails installed.
		5) Plan path of scaffolding to minimize changing direction of movement.
		6) Prior to movement of scaffold, workers on scaffold are to be warned of movement, and to take a knee.
		7) Wheels must be locked when scaffold is not being moved.
		8) Scaffolding must be kept clear of overspray.
		9) Spotter is to keep watch and communicate to sprayer of any hazards that will affect him while he is spraying.
		10) Pump operator and sprayer must be in clear and constant contact while spraying operation is in progress.
		11) When working overhead, a face shield, flip-down visor, foam wrapped safety glasses, or spoggles are required.
		12) Release the pressure before disconnecting any high-pressure hoses. Secure the line to

		prevent the fitting from kicking up if any pressure remains.
Step #6 Hand Patching Fireproofing		
Steps to Complete Job	**Hazards**	**Preventive Measures**
Hand applying fireproofing material to steel beams, angles, or columns.	Worker will be exposed to possible flying debris, falls, strains, cuts, and tight working conditions with restricted movement.	1) Competent person to inspect area for possible trip and fall hazards. Inspect overhead for obstructions. Remove or mark hazards accordingly.
		2) Plan to begin patching work before other trades limit access.
		3) Mixing must be done by a competent person to ensure application meets the manufacturers' recommendations.
		4) Keep work area clear of debris and excessive materials.
		5) Set up work to minimize overreaching, twisting, and bending over.
		6) Use MEWP or mobile scaffold to access overhead work. Ladders should be a last resort and only after approved by safety.
		7) When working overhead, a face shield, flip-down visor, foam wrapped safety glasses, or spoggles are required.