



Youngman India Pvt. Ltd.

JOB HAZARD ANALYSIS

Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
1. Site Inductions	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Safety Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388), Safety goggles (ANSI Z87), Nose Mask (3M).	N/a	1. Safety Induction Training 2. SOP Training 3. Training on Behavioral safety 4. Training on material handling 5. Emergency Evacuation training	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical: Employees not familiar with onsite requirements and procedures due to which physical injury happen in work place. Slip, trip and fall due to black out or Darkness/Poor Illumination. Injury to employee. Fire, electrocution unnecessary touching/ tempering due to which shock and burn injury happen. Unaware about evacuation during emergency due to which any type of physical injury damage.	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Nil Administrative Control- Scaffolders to attend site specific induction, first information about emergency evacuation, Proper Illumination in office. Avoid unnecessary touching of cables or electric boards.					
	Chemical: Nil	Nil					
	Biological: Nil	Nil					
	Ergonomic: Continuous standing position at site may cause posture hazard.	Correct sitting & Standing posture, Proper office setup, no long period sitting & standing.					
	Psychological: Worry about unknown hazard.	Only trained and experienced person should engage for the work as per employee selection procedure & persons are medically fit as per TSL medical health check-Up criteria.					
	Other Hazard (Seasonal, Behavioral, Environment & Area Specific)						
Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition.	Do not do any operation while raining & Adverse weather condition.						







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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Extreme Hot (45 deg) & Cold temperature (12 deg).	Drink penalty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
	Environment: Nil	Nil					
	Behavioral: Negligence, Injury due to negligence	Training on Behavioral safety and apply of consequences as per consequence management criteria					
	Location Hazard: Dust Explosions due to which beathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens. Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs. Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					

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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
2. Inspection of Personal Protective Equipment required for the task as noted on the permit and job safety plan.	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Safety Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388) , Safety goggles (ANSI Z87), Nose Mask (3M).	N/a	<ol style="list-style-type: none"> 1. Safety Induction Training 2. SOP Training 3. Training on Behavioral safety 4. Training on material handling 5. Emergency Evacuation training 	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical: Non-Compliance	Elimination & substitution- Nil Engineering Control- Nil Administrative Control- Inspect all PPE for damage or defects (harness, lanyards, gloves etc.) Remove from service PPE that shows signs of excessive wear or damage					
	Failure of Personal Protective due to which physical injury happen in work place Equipment Injury						
	Chemical: Nil	Nil					
	Biological: Nil	Nil					
	Ergonomic: Continuous standing position at working site.	Take frequent rest while working.					
	Psychological: Nil	Nil					
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
	Environment:	Nil					
	Behavioral: Negligence, Injury due to negligence	Training on Behavioral safety & apply of consequence as per consequence management criteria.					
	Location Hazard: Dust Explosions due to which breathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens.	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe.					



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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs. Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure	Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					

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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
3. Identify Scaffold Application	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388) , Safety goggles (ANSI Z87), Nose Mask (3M).		1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5. Emergency Evacuation training	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical: 1. Worker's unawareness of scope of work 2. Job Safety Plan, safety analysis not completed or reviewed with crew, or Inexperienced Crafts 3. Working at heights 4. Crush injury due to fall of material, being stuck by falling material, caught at pitch point Hand, Eye, or arm injuries.	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Nil Administrative Control- Ensure scaffold requirements and work scope understood and followed. A detailed Job Safety Plan, HIRA shall be completed and reviewed for every scaffold being erected or dismantled. A detailed JSP shall be completed at the location of the job to ensure that all hazards have been eliminated or controlled. Ensure that competent employees are identified for erecting or dismantling the scaffold and working under the direct supervision. Supervisor shall review and sign the JSP with the crew before work starts. Always wear all required PPE for the task. Multiple tie-off points shall be identified prior to commencement of work. Supervisor shall ensure all work is completed in accordance with YIPL requirements.					
	Chemical: Nil	Nil					
	Biological: Snake, Bee, Monkey, Dog & Other hazardous animal, reptile & insect.	Spreading of carbolic acid at working area (This is done through TSL). Ensure through communication with concern department that such kind of hazards are not available at site. Maintain safe distance from hazardous					

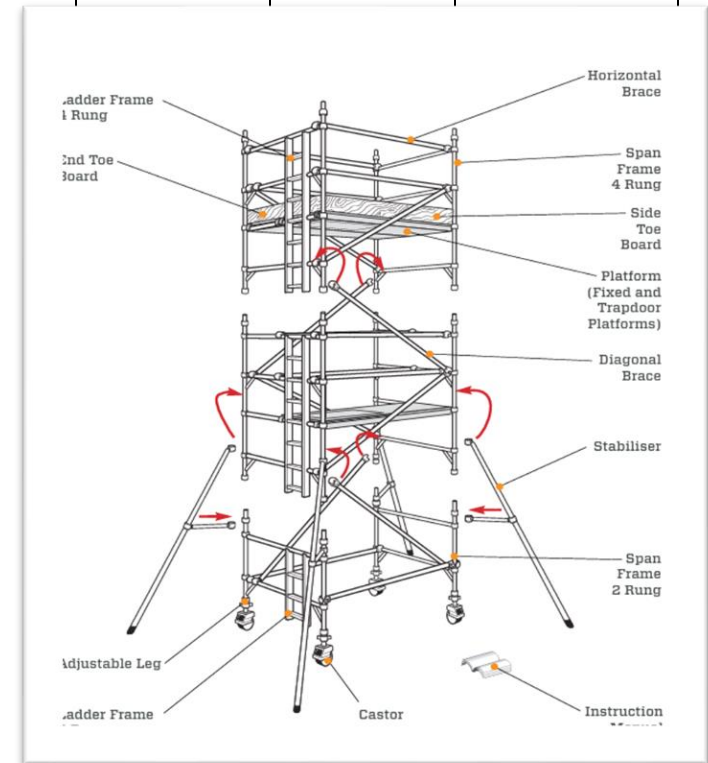
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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
		animal, reptile & insect. If such kind of hazards present at site immediately inform to the concern department .					
	Ergonomic: Posture hazard due to handling of material	Maintain adequate posture for handling of material.					
	Psychological: Worry about fall from height	Only experienced driver should do the work as per employee selection criteria. persons are medically fit as per TSL medical health check-Up criteria. Height pass certificate of the person including vertigo test.					
	Other Hazard (Seasonal, Behavioral, Environment & Area Specific Hazard)						
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
	Environment: Nil	Nil					
	Behavioral: Careless about hazard & its precautionary Measure	Training on Behavioral safety and apply of consequences as per consequence management criteria.					
	Location Hazard: Hazard at Work Site	Follow area Six directional hazards controls identified in permit.					



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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
4.Delivery of Scaffolding Materials to the site with vehicle / truck/Manual loading/unloading	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor & Driver/Worker	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Impact resistance hand glove (MNO88) , Safety goggles (ANSI Z87), Nose Mask (3M).	Vehicle & Trolley	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Defensive driving training 5.Work at height training, 6..Emergency Evacuation Training A722, EN 388	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical: Fall of material, Sharp edges of material, Other moving vehicle inside work area, Over loading. Crush injury due to fall of material, being stuck by falling material, Dashing/collision with other moving vehicle, Toppling of vehicle due to over loading	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Nil Administrative Control- 1) Work Permit 2) Driving license of vehicle driver, 3) Do not overload vehicle, Vehicle Fitness certificate & regular maintenance, loads to be fully secure until loading commences. Lorry bed truck to be in good working order and free of defects. Vehicle must be roadworthy.					
	Chemical: Nil	Nil					
	Biological: Nil	Nil					
	Ergonomic: Posture hazard, Lifting load. Health issues due to bad posture, Fracture due to lifting load	Take frequent break while working, Maximum 25 kg should be lift by a man & 15 kg by women					
	Psychological: Worry about fall from	Nil					
	Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)						
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink penalty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					

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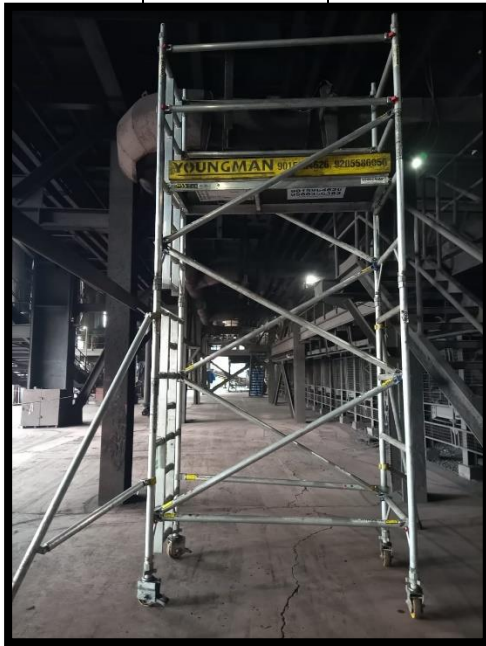
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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Environment: Emission of smoke from vehicle, Air pollution, & Dust generation.	Vehicle PUC certificate & Fitness certificate					
	Behavioral: Negligence, Injury due to negligence	Training on Behavioral safety and apply of consequences as per consequence management criteria.					
	Location Hazard: Working at Furnace, Sinter, LD, and Mills, Physical injury & health issues	Follow JSP pre job hazard assessment report vide Doc No- YIPL/AAR/01					
5.Prepare work area for scaffold erection/Dismantling	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Cut Resistance Hand Gloves (EN 388) , Safety goggles (ANSI Z87), Nose Mask (3M).	Spanner, Gin Wheel, Rope, Gas monitor	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5. Emergency Evacuation training	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical: 1. Tripping, slipping on walking/working surface. Unauthorized workers in the work area. Line of fire. 2. crush injuries to the hand and or foot from dropped or loose material. 3. Cuts, abrasions to the hands from rough material or sharp objects. 4. Electrical cable above, or any electrical lines.	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Hard Barricade work area to prevent unauthorized workers in the area. Make sure tags are placed on all sides of the barricade with the correct information labeled. • Always have a Barricade Stopper while work is being performed. Use of small bag for loose fittings handling. Use of tools lanyard Scaffold stair access (As per departmental requirement) Administrative Control- Keep walking surfaces clean and free of trip hazards. Maintain proper material storage and keep material out of the walkway. Display safety signs					

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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
		<ul style="list-style-type: none">• Use rubber dipped palm working gloves, steel toed boots, Z87 safety glasses. Keep hands and feet clear of material when setting down. Use good communication when material handling.					
	Chemical: Nil	Nil					
	Biological:	Nil					
	Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.	Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting/lowering long material.					
	Psychological: Worry about dropped of loose material	Only experienced employee should do the work					
	Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)						

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	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
	Environment:	Nil					
	Behavioral: Negligence, Injury due to negligence	Training on behavioral safety and apply of consequences as per consequence management criteria					
	Location Hazard: Dust Explosions due to which beathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens. Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs. Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					

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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
6. Scaffold Erection, dismantling, or passing material Manual Handling	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Cut Resistance Hand Gloves (EN 388) , Safety goggles (ANSI Z87), Nose Mask (3M).	Spanner, Gin Wheel, Rope, Gas monitor, Hammer	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5.Emergency Evacuation Training 6.Gas safety training	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical: Falls/Overload of scaffold components/Dropped Objects Collapse of scaffold- unstable ground Electrocution from overhead lines. Struck by falling objects. Fall of men & materials, scaffold ladder and another scaffold equipment's-Tubes, verticals, ledgers can swing fall. Scaffolding collapse, serious injury of fatality. Employee hits head or body part on equipment or material. Crush/Pinch points, Unsecured Materials Material not set properly. Cuts and or abrasions to hands or body parts from material being passed.	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Barricade area to prevent unwanted traffic, Use of non-spark able hammer Use of tools lanyard. Scaffold stair access Administrative Control- Erect scaffold according to Competent Person Instruction, Scaffolding to be provide with Scaff tag (Red). Erect progressively internal/external of scaffold structure SG:4 guardrails protections. TG:20 Erection procedures. Scaffolders to use their safety lines-FBH-fall arrestors etc. Scaffold progressive floors at each height will give double guardrails and secured with toe guards around. Watch hand/body placement always. Do not stand directly under work. • Use impact gloves while handling material at ground. • Keep hands and feet clear of material when setting down and be aware of overhead work. • Material shall be secured when installing. When chaining material ensure that the next employee has a firm grip before releasing by utilizing verbal communication and/or twist & tug method. • Do not stack material above the toe boards to prevent dropped objects.					

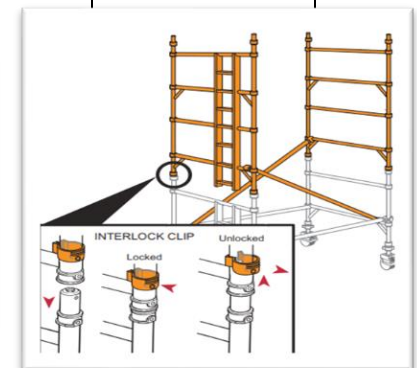
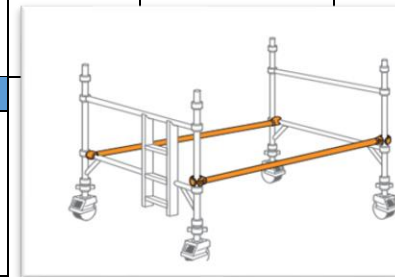
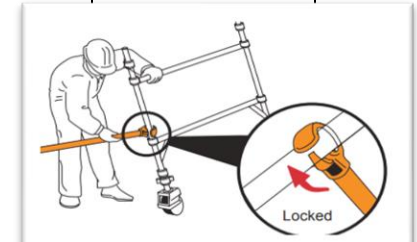
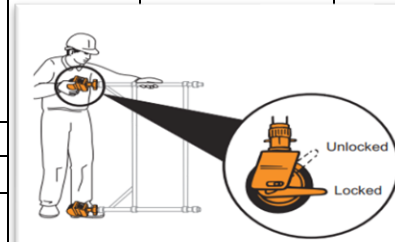
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Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Employee trips on material in the walkway.	Use rubber dipped palm working gloves, steel toed boots with a defined heel, long sleeve shirt (tucked in), approved z87 rated safety glasses, and a hard hat shall be always worn while on the jobsite. • Keep work area and walking area clear of material					
	Chemical: Nil	Nil					
	Biological:	Nil					
	Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.	Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting heavy pieces of material.					
	Psychological: Worry about dropped of loose material	Only experienced Employee should do the work					
Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)							
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
	Environment:	Nil					
	Behavioral: Negligence, Injury due to negligence	Training on behavioral safety & Apply consequences as per consequence management criteria.					
	Location Hazard: Dust Explosions due to which breathing problem occurs.	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place.					



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	<p>Fires from Flammable Materials due to which any type of burn injury happens.</p> <p>Mechanical Hazards due to which cut injury happen.</p> <p>Heat Stress and Burns.</p> <p>Chemical Exposure due to which skin irritation occurs.</p> <p>Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen.</p> <p>Slip, Trip and Fall due to pellet</p> <p>Gas exposure</p>	<p>Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe.</p> <p>Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness</p> <p>Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials.</p> <p>Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled.</p> <p>Use proper safety shoe and walk carefully.</p> <p>Use calibrated gas detectors is mandatory.</p>					
7.Erecting/Dismantling, of Scaffolds	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388) , Safety goggles (ANSI Z87), Nose Mask (3M).	Spanner, Gin Wheel, Rope, Gas monitor	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5. Emergency Evacuation training	JNTVTI (Through TSL) & STI course (Through YIPI).
	<p>Physical:</p> <p>Falls/Overload of scaffold components/Dropped Objects</p> <p>Collapse of scaffold- unstable ground</p> <p>Electrocution from overhead lines.</p> <p>Struck by falling objects.</p> <p>Fall of men & materials, scaffold ladder and another scaffold</p>	<p>Elimination & substitution- This hazard cannot be eliminated.</p> <p>Engineering Control- Barricade area to prevent unwanted traffic.</p> <p>Administrative Control- Erect scaffold according to Competent Person Instruction, Scaffolding to be provide with Scaff tag (Red). Erect progressively internal/external of scaffold structure SG:4 guardrails protections.</p>					

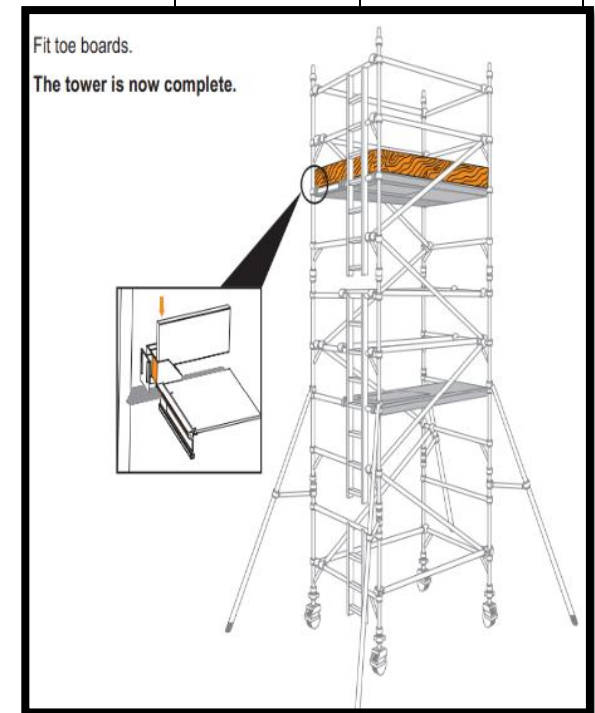
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Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	<p>equipment's-Tubes, verticals, ledgers can swing fall.</p> <p>Scaffolding collapse, serious injury of fatality.</p> <p>Employee hits head or body part on equipment or material.</p> <p>Crush/Pinch points,</p> <p>Unsecured Materials</p> <p>Material not set properly.</p> <p>Cuts and or abrasions to hands or body parts from material being passed.</p> <p>Employee trips on material in the walkway.</p>	<p>Scaffolders to use their safety lines-FBH-fall arrestors etc. Scaffold progressive floors at each height will give double guardrails and secured with toe guards around. Watch hand/body placement always.</p> <p>Do not stand directly under work.</p> <ul style="list-style-type: none"> • Use impact gloves while handling material at ground. • Keep hands and feet clear of material when setting down and be aware of overhead work. • Material shall be secured when installing. When chaining material ensure that the next employee has a firm grip before releasing by utilizing verbal communication and/or twist & tug method. • Do not stack material above the toe boards to prevent dropped objects. <p>Use rubber dipped palm working gloves, steel toed boots with a defined heel, long sleeve shirt (tucked in), approved z87 rated safety glasses, and a hard hat shall be always worn while on the jobsite.</p> <ul style="list-style-type: none"> • Keep work area and walking area clear of material 				6. Gas safety training	
	<p>Chemical: Nil</p> <p>Biological:</p> <p>Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.</p> <p>Psychological: Worry about dropped of loose material</p>	<p>Nil</p> <p>Nil</p> <p>Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting heavy pieces of material.</p> <p>Only experienced employees should do the work</p>					



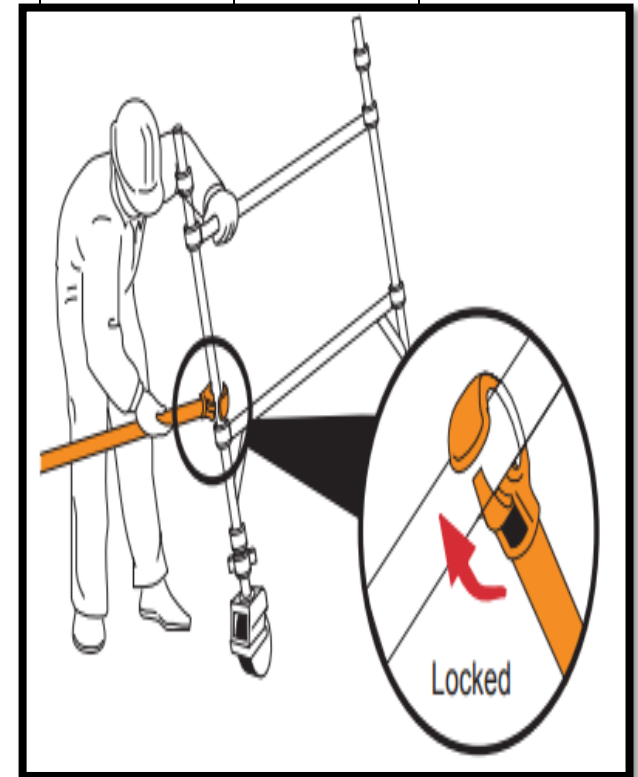
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Approved By:

Youngman India Pvt. Ltd.

JOB HAZARD ANALYSIS

Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)							
Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).		Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
Environment: Dust, fumes, Toxic gases		Keep Calibrated updated Gas monitors, use nose mask,					
Behavioral: Injury due to negligence		Training on behavioral safety					
Location Hazard: Dust Explosions due to which breathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens. Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs. Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure		Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					



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JOB HAZARD ANALYSIS

Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
8.Working in the vicinity of moving plant or equipment.	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388), Safety goggles (ANSI Z87), Nose Mask (3M).	Spanner, Gin Wheel, Rope, Gas monitor	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5. Emergency Evacuation training	JNTVTI (Through TSL) & STI course (Through YIPL). & JNTVTI
	Physical: Injury to scaffolders. Injury of tripping by moving machineries & rotating equipment's, High noise, Vibrations (HAVS).	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Positive Isolation(LOTO), Barricade area to prevent form moving machinery, Ensure safe limit of sound at surrounding of working area through noise level meter. <ul style="list-style-type: none"> Administrative Control- Site awareness through site safety induction Wearing of hi-visibility clothing Do not wear loose clothing & metal bracelet, ring near live or moving machineries & rotating equipment's All P.P.E is to be in compliance with legislative and site requirements and is to be worn before entering plant 					
	Chemical: Nil	Nil					
	Biological: Nil	Nil					
	Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.	Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting heavy pieces of material.					
	Psychological: Worry about running & rotating equipment	Only experienced employees should do the work					

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JOB HAZARD ANALYSIS

Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)						
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
	Environment: Dust.	Keep Calibrated updated Gas monitors, use nose mask,					
	Behavioral: Injury due to negligence	Training on behavioral safety					
	Location Hazard: Dust Explosions due to which breathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens. Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs. Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully.					

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JOB HAZARD ANALYSIS

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Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
		Use calibrated gas detectors is mandatory.					
9. Work in low illumination area	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388) , Safety goggles (ANSI Z87), Nose Mask (3M).	Spanner, Gin Wheel, Rope, Gas monitor, Lux Meter.	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5. Emergency Evacuation training 6.Gas safety training	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical:	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Ensure proper illumination through Lux meter (Minimum 100 Lux) before starting the job (if require). Administrative Control- Provide adequate lighting. <ol style="list-style-type: none"> 1. Ensure work area & external entrances are well lit at night. 2. Barricade area, place sign boards having appropriate retro reflective background. 3. Wear proper PPE. Ensure retro reflective stripes on vest. 4. Ensure Safety lighting (rotating beacon) on heavy equipment. 5. Educate night shift crew members about the need for proper sleep, dangers of fatigue and circadian rhythm. 6. Safe hand over between shifts and ensure that new shifts are adequately informed about all issues that have arisen in the workplace. 					
	Chemical: Nil	Nil					

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JOB HAZARD ANALYSIS

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Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Biological: Nil Ergonomic: Nil Psychological: Worry about collision with near by equipment, structure & machineries. Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard) Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg). Environment: Dust, Behavioral: Injury due to negligence Location Hazard: Dust Explosions due to which beathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens. Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs.	Nil Nil Only trained & experienced person should engage for the work as per employee selection criteria & Persons are medically fit as per TSL medical health check-up criterial. Do not do any operation while raining & Adverse weather condition. Drink penalty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature. Keep Calibrated updated Gas monitors, use nose mask, Training on behavioral safety Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness					



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JOB HAZARD ANALYSIS

Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure	Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					
10. Working in confined spaces	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388) , Safety goggles (ANSI Z87), Nose Mask (3M). (Oxypack, stretcher, ELBA, Tripod	Spanner, Gin Wheel, Rope, Gas monitor, Oxygen Monitor.	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5. Emergency Evacuation training 6.Gas safety training 7. Confined Space	JNTVTI Certified
	Physical: (a) Toxic gases, flammable gases, lack of oxygen, excess oxygen. (b) Moving components, gaseous, electrical or liquid services to the space	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Ensure proper illumination through Lux meter before starting the job(if require), Administrative Control- Client must operate a permit to work system. Confined space should not be entered unless an entry permit has been issued, following the appropriate checks for the hazards which may be present. The checks could include tests for toxic or flammable gases, toxic substances, oxygen levels, isolation of electrical, mechanical, liquid or gaseous supplies. The entry permit should include any requirements for PPE, e.g. respiratory or breathing apparatus, protective clothing etc.					

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Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
		Adequate, intrinsically safe lighting should be provided. Provision of intrinsically safe ventilation system. Use of safety lines, Presence of confined space guardian outside entry point. Availability of appropriately equipped rescue team. Only personnel with the necessary temperament, Check through Gas monitor that gas level is below 50 ppm & Oxygen monitor is 19.47%.		& First Aid Kit from TSL)			
	Chemical: Nil	Nil					
	Biological: Poisonous insect, Fungi	Before starting of the work always ensure through concern department such kind of hazards are not present.					
	Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.	Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting heavy pieces of material.					
	Psychological: Worry about dropped of loose material	Only experienced employees should do the work					
	Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)						
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					



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Department & Section:		FM Mechanical					
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Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Environment: Dust,	Keep Calibrated updated Gas monitors, use nose mask,					
	Behavioral: Injury due to negligence	Training on behavioral safety					
	Location Hazard: Dust Explosions due to which beathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens. Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs. Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					
11. Positive Isolation and work permit (De-Energizing the equipment)	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket	Spanner, Gin Wheel, Rope, Gas monitor	1.SOP Training 2.Training on Behavioral safety	JNTVTI (Through TSL) & STI course
	Physical: Unawareness of proximity hazards may	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Ensure proper positive isolation (LOTO System)					

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Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
services to the space	lead to Positive Isolation	<p>Administrative Control- Client must operate a permit to work system.</p> <p>Take total power clearances of machine from department authority as per ESI document.</p> <p>Fill up the Work Permit for individual working agency in form no..... and get the necessary authorization from the departmental representative.</p> <p>Before filling the six directions form, both departments must be joint visit to the site for identification the Hazards.</p> <p>Six Direction Hazard identification form to be filled by executing departmental. Fill up additional six direction form every time.</p> <p>Positive Isolation box must be locked by contractor supervisor, If require personal lock to be provide by the TSL employee.</p> <p>When electrical power cutting is rising ensure that mentioned equipment no. in power cutting form is absolutely correct.</p> <p>Ensure that Positive Isolation done following ESI Positive Isolation Standard.</p>		(EN 11612, 470 gsm), Hand Gloves (EN 388), Safety goggles (ANSI Z87), Nose Mask (3M).		3Training on material handling 4.Work at height training, 5. Emergency Evacuation training 6. Positive Isolation Training	(Through YIPL).

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JOB HAZARD ANALYSIS

Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
		Ensure the presence of Equipment lock in the positive Isolation Box. Ensure that Emergency switch of equipment is pressed and locked for additional safety before starting the job.					
	Chemical: Nil	Nil					
	Biological: Snake, Bee, Monkey, Dog & Other hazardous animal, reptile & insect.	Spreading of carbolic acid at working area (This is done through TSL). Ensure through communication with concern department that such kind of hazards are not available at site. Maintain safe distance from hazardous animal, reptile & insect. If such kind of hazards present at site immediately inform to the concern department.					
	Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.	Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting heavy pieces of material.					
	Psychological: Worry about dropped of loose material	Only experienced employees should do the work as per employee selection criteria & Persons are Medically fit as per TSL medical check-up criteria.					
	Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)						
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					



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Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Environment: Dust	Keep Calibrated updated Gas monitors, use nose mask,					
	Behavioral: Injury due to negligence	Training on behavioral based safety & apply of consequences as per consequence management criteria.					
	Location Hazard: Dust Explosions due to which beathing problem occurs. Fires from Flammable Materials due to which any type of burn injury happens. Mechanical Hazards due to which cut injury happen. Heat Stress and Burns. Chemical Exposure due to which skin irritation occurs. Heavy Vehicle, commercial vehicle & private vehicle due to which physical injury happen. Slip, Trip and Fall due to pellet Gas exposure	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					
12. Working Gases area	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervis or	Safety Shoe (IS 15298), Safety Helmet (IS2925),	Spanner, Gin Wheel, Rope, Gas monitor	1.SOP Training 2.Training on Behavioral safety	JNTVTI (Through TSL) & STI
	Physical: Toxic gases	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- CO Gas monitor					

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Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
		Administrative Control- Keep calibrated CO detector with working person, If Co 50ppm then start Removing people from the job. Keep genie for rescue arrangement. Inform / keep fire brigade / Ambulance near work area. Keep Gas rescue apparatus like ELBA/ BG4/ Oxy Pack in case of emergency. If the gas concentration exceeds the permissible limit, don't panic, move back peacefully and inform the equipment /area owner. Non-ferrous tools are to be used for surface preparation on gas lines and/or gaseous areas No workmen should work in gas hazardous area empty stomach.		Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388), Safety goggles (ANSI Z87), Nose Mask (3M).		3 Training on material handling 4. Work at height training, 5. Emergency Evacuation training 6. Gas safety training	course (Through YIPL).
	Chemical: Nil	Nil					
	Biological: Nil	Nil					
	Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.	Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting heavy pieces of material.					
	Psychological: Worry about dropped of loose material	Only experienced employees should do the work as per employee selection criteria.					
Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)							

GAS SAFETY

⚠ DANGER
Inhalation hazard. Vapors are toxic. Avoid exposure to vapors. Use proper personal protection equipment.

यदि कार्बन मोनो ऑक्साइड का स्तर 50 से अधिक है तो उस स्थान को छोड़ दें

Constituents	Safe Down (ppm)	Short Exposure (ppm)	LD (ppm)	Gas Level	% of Carboxy hemoglobin	Symptoms
Carbon-dioxide (CO ₂)	2.5-3.2	10.0-10.0	10.0-10.0	30-60	0-10	Heaviness of head
Carbon-monoxide (CO)	9.0-12.0	10.0-20.0	10.0-20.0	60-100	10-15	Headache
Oxygen (O ₂)	0.8-1.0	0.4-0.8	1.0-1.5	100-150	15-20	Dizziness
Hydrogen (H ₂)	0.2-0.5	3.0-5.0	2.0-4.0	150-200	20-25	Dimness of vision
Nitrogen (N ₂)	0.0-10.0	0.0-0.0	0.0-0.0	200-300	25-30	Loss of Strength and confusion
Methane (CH ₄)	25.0-25.0	NI	NI	300-450	30-40	Above symptoms get intensified
Unidentified Hydrocarbon	2.0-2.0	NI	NI	450-1000	40-55	Unconsciousness
				1000-2000	55-70	Death

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Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg). Environment: Dust, Gas Behavioral: Injury due to negligence	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature. Keep Calibrated updated Gas monitors, use nose mask, Training on behavioral safety & apply of consequence as per consequence management criteria.					
13. Post work housekeeping	Safety & Health Hazard (Physical, Chemical, Biological, Ergonomic, Psychological)		Supervisor or	Safety Shoe (IS 15298), Safety Helmet (IS2925), Safety Jacket (EN 11612, 470 gsm), Hand Gloves (EN 388), Safety goggles (ANSI Z87), Nose Mask (3M).	Spanner, Gas monitor	1.SOP Training 2.Training on Behavioral safety 3Training on material handling 4.Work at height training, 5. Emergency Evacuation training 6. 5S Housekeeping	JNTVTI (Through TSL) & STI course (Through YIPL).
	Physical: Improper dismantling 1. Falling objects 2. Nips and cuts. Injury to persons	Elimination & substitution- This hazard cannot be eliminated. Engineering Control- Barricade area to prevent unwanted traffic. Bins for loose fittings stocks Administrative Control- Remove left out materials. 2. Remove trash and debris and dispose off as per Approved method. 3. Secure hand tools and place it safely 4. Ensure area is not congested. 5. Signs and barricade tapes removed.					
	Chemical: Nil	Nil					
	Biological: Snake, Bee, Monkey, Dog & Other hazardous animal, reptile & insect.	Spreading of carbolic acid at working area (This is done through TSL). Ensure through communication with concern department that such kind of hazards are not available at site. Maintain safe distance from hazardous					

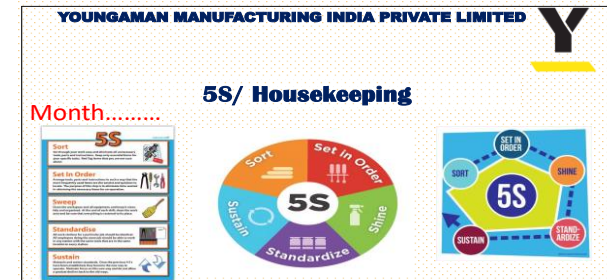
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Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
		animal, reptile & insect. If such kind of hazards present at site immediately inform to the concern department.					
	Ergonomic: Posture Hazard, Health issues, Back injury, shoulder strains from improper lifting.	Use proper lifting techniques and always lift with your legs and not your back. Avoid twisting and have another employee assist in lifting heavy pieces of material.					
	Psychological: Worry about dropped of loose material	Only experienced employees should do the work.					
Other Hazard (Seasonal, Behavioral, Environment & Location Specific Hazard)							
	Seasonal Hazard: Rain & Adverse weather (Thunderstorm, heavy wind etc.) condition. Extreme Hot (45 deg) & Cold temperature (12 deg).	Do not do any operation while raining & Adverse weather condition. Drink plenty of water & take frequent rest while working to avoid heat stress. Maintain adequate clothing to avoid cold temperature.					
	Environment: Dust,	Keep Calibrated updated Gas monitors, use nose mask,					
	Behavioral: Injury due to negligence	Training on behavioral safety & apply of consequence as per consequence management criteria.					
	Location Hazard: Dust Explosions Fires from Flammable Materials Mechanical Hazards Heat Stress and Burns Chemical Exposure Heavy Vehicle, commercial vehicle & private vehicle Slip, Trip and Fall due to pellet	Proper ventilation, dust collection systems, and dust suppression methods are crucial. Regular maintenance, fire detection systems, and having appropriate firefighting equipment in place. Safeguards, proper lockout/tagout (LOTO) procedures, and clear signage to keep workers safe. Proper PPE (Personal Protective Equipment), heat-resistant clothing, and monitoring workers for signs of heat-related illness					



Prepared By:

Approved By:

Youngman India Pvt. Ltd.

JOB HAZARD ANALYSIS

Department & Section:		FM Mechanical					
Location of Job:		Tata Steel, Jamshedpur					
Job Description:		Aluminum Scaffolding Erection & Dismantling & Handling (H-Frame & Ring Lock)					
Team:		Safety Supervisor, Site supervisor & Worker					
Sequence of Basic Job Steps	Potential Hazards & Impact	Safeguard / controls to be put in place	Responsibility	Required PPE	Required Tools & equipment's	Required Training	Special skilled emp.
	Gas exposure	Proper ventilation, personal protective equipment (gloves, masks), and training on handling hazardous materials. Walk carefully on road, always use crossing time zebra crossing. Also, speed limit imposed inside TSL. Ensure vehicle movement is controlled. Use proper safety shoe and walk carefully. Use calibrated gas detectors is mandatory.					