**Construction Safety Risks and Mitigation techniques**

**If anyone search :All, Building, Building Construction, All risk, All task .Than user interface will show:**

**Building Construction Safety Risks and Mitigation Techniques**

**Likelihood range 1 to 5**

**Severity range 1 to 5**

**Measured Risk Range 1 to 25**

**t-1Excavation:** ( if search Excavation, digging, excavate, Dig)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Cave Ins** | Fractures, Pain | **Link** |  |  |  |  | **Link** | **Link** | R-1 |
| **Underground**  **utilities** | Ventricular fibrillation, burns | **Link** |  |  |  |  | **Link** | **Link** | R-2 |
| **Falls into excavation** | Sprains, strains, fractures | **Link** |  |  |  |  | **Link** | **Link** | R-3 |
| **Ground water seepage** | Minor injuries | **Link** |  |  |  |  | **Link** | **Link** | R-4 |

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Manual handling** | Crush in | **Link** |  |  |  |  | **Link** | **Link** | R-5 |
| **Struck by steel bars** | Cuts, Lacerations | **Link** |  |  |  |  | **Link** | **Link** | R-6 |
| **Fall from height** | Spinal cord damage, Fatality | **Link** |  |  |  |  | **Link** | **Link** | R-7 |

**t-2Reinforcement and Steel Erection:** ( if search Reinforcement, Reinforcement erection, Steel, Steel erection, Reinforcement and steel erection)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Exposure to cement dust** | Silicosis, irritation in nose and throat | **Link** |  |  |  |  | **Link** | **Link** | R-8 |
| **Manual lifting and handling** | Immediate injuries, long term health issues | **Link** |  |  |  |  | **Link** | **Link** | R-9 |
| **Contact with wet cement** | Causes damages to skin, tissues and lungs | **Link** |  |  |  |  | **Link** | **Link** | R-10 |
| **Noise** | Irritation | **Link** |  |  |  |  | **Link** | **Link** | R-11 |

**t-3Concrete mixing:** ( if search concrete, concrete batching, concrete mixer, concrete mixing)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Collapse of formwork** | Spinal cord damage, Fatality | **Link** |  |  |  |  | **Link** | **Link** | R-12 |
| **Fall from height** | Spinal cord damage, Fatality | **Link** |  |  |  |  | **Link** | **Link** | R-13 |
| **Struck by falling object** | Bruises, lacerations | **Link** |  |  |  |  | **Link** | **Link** | R-14 |

**t-4Formwork and Shuttering:** ( if search Formwork and shuttering, Formwork, Shuttering)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Fire Hazards** | Ventricular fibrillation , burns | **Link** |  |  |  |  | **Link** | **Link** | R-15 |
| **Improper use of PPE** | Burns, inflation | **Link** |  |  |  |  | **Link** | **Link** | R-16 |

**t-5Hotwork:** ( if search hotwork, weld, welding, Electrical work)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Contact with wet cement** | Causes damages to skin, tissues and lungs | **Link** |  |  |  |  | **Link** | **Link** | R-17 |
| **Improper use of PPE** | Peeling of skin, inflation | **Link** |  |  |  |  | **Link** | **Link** | R-18 |

**t-6Concreting:** ( if search concrete pour, concrete pouring, concreting)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Fall from height** | Pain, Bruises, Lacerations, Fatality | **Link** |  |  |  |  | **Link** | **Link** | R-19 |
| **Fall of objects** | Multiple injuries | **Link** |  |  |  |  | **Link** | **Link** | R-20 |

**t-7Hoist:** ( if search hoist, hoisting, lifting)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Dust and airborne particles** | Asthma, coughing, sneezing | **Link** |  |  |  |  | **Link** | **Link** | R-21 |
| **Electrical** | Ventricular fibrillation, burns | **Link** |  |  |  |  | **Link** | **Link** | R-22 |
| **Noise** | Irritation, deafness | **Link** |  |  |  |  | **Link** | **Link** | R-23 |

**t-8Drilling:** ( if search drilling, boring)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Fall from height** | Spinal cord damage  , fatality | **Link** |  |  |  |  | **Link** | **Link** | R-24 |
| **Collapse of scaffold** | Spinal cord damage, Fatality | **Link** |  |  |  |  | **Link** | **Link** | R-25 |
| **Fall of objects** | Multiple injuries | **Link** |  |  |  |  | **Link** | **Link** | R-26 |

**t-9Scaffold/Ladder:** ( if search Scaffold, ladder)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Fall from height** | Pain ,fracture | **Link** |  |  |  |  | **Link** | **Link** | R-27 |
| **Chemical Exposure** | damages to skin, tissues | **Link** |  |  |  |  | **Link** | **Link** | R-28 |

**t-10Painting:** ( if search Painting, Paint, color, colour, coloring)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Fall from height** | Pain ,fracture | **Link** |  |  |  |  | **Link** | **Link** | R-29 |
| **Contact with wet cement** | Causes damages to skin, tissues and lungs | **Link** |  |  |  |  | **Link** | **Link** | R-30 |
| **Manual lifting and handling** | Immediate injuries | **Link** |  |  |  |  | **Link** | **Link** | R-31 |

**t-11Wall Construction:** ( if search wall, wall construction)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Fall from height** | Pain ,fracture | **Link** |  |  |  |  | **Link** | **Link** | R-32 |
| **Contact with wet cement** | Causes damages to skin, tissues and lungs | **Link** |  |  |  |  | **Link** | **Link** | R-33 |
| **Manual lifting and handling** | Immediate injuries | **Link** |  |  |  |  | **Link** | **Link** | R-34 |

**t-12Tiles and Floor Finishing:** ( if search Tiles, Floor finishing, Tiles and floor finishing)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Overhead power lines** | Ventricular fibrillation, burns | **Link** |  |  |  |  | **Link** | **Link** | R-35 |
| **Inadequate maintenance** | Breaking of rope | **Link** |  |  |  |  | **Link** | **Link** | R-36 |
| **Unskilled operation** | Collisions with workers and materials | **Link** |  |  |  |  | **Link** | **Link** | R-37 |

**t-13Crane Operation:** ( if search Crane, Crane operation , Crane work)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Access improperly** | Overturning | **Link** |  |  |  |  | **Link** | **Link** | R-38 |
| **Unskilled operation** | Collisions with workers and materials | **Link** |  |  |  |  | **Link** | **Link** | R-39 |

**t-14Vehicle movement:** ( if search construction vehicle, vehicle, Excavator, Bulldozer, loader, Dump truck, Truck)

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Inhalation of wood dust** | Mucosal, respiratory effects | **Link** |  |  |  |  | **Link** | **Link** | R-40 |
| **Tools and Equipment** | cuts, lacerations, amputations | **Link** |  |  |  |  | **Link** | **Link** | R-41 |

**t-15Carpentry Work:** ( if search carpentry work, carpentry, wood work, wood)

GRAPH

Structural Members:

1.Footing- Task- 1,2,15,4,3,6( if search footing ,shallow foundation)

2.Column- Task- 2,15,4,3,6( ok) ( if search column, pillar, short column)

2.Beam- Task- 2,15,4,3,6( if search Beam, Grade beam, Roof beam)

3.Slab- Task- 15,4,2,3,6(ok) ( if search Slab,Roof,Floor)

5.wall - Task- 11

**If anyone search :slab,roof,floor,roof risk,floor risk,slab risk**

**Than user interface will show:**

**Slab or Roof Construction Safety Risks and Mitigation Techniques**

**Likelihood range 1 to 5**

**Severity range 1 to 5**

**Measured Risk Range 1 to 25**

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| **Hvazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Collapse of formwork** | Spinal cord damage, Fatality | **Link** |  |  |  |  | **Link** | **Link** | R-12 |
| **Fall from height** | Spinal cord damage, Fatality | **Link** |  |  |  |  | **Link** | **Link** | R-13 |
| **Struck by falling object** | Bruises, lacerations | **Link** |  |  |  |  | **Link** | **Link** | R-14 |

**Task01: Formwork & Shuttering:**

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Manual handling** | Crush in | **Link** |  |  |  |  | **Link** | **Link** | R-5 |
| **Struck by steel bars** | Cuts, Lacerations | **Link** |  |  |  |  | **Link** | **Link** | R-6 |
| **Poor access** | Minor fractures | **Link** |  |  |  |  | **Link** | **Link** | R-7 |

**Task02: Reinforcement Erection:**

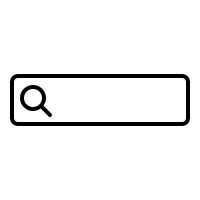
**Task03: Concrete Mixing:**

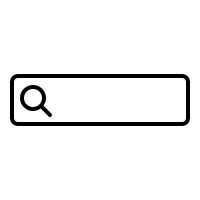
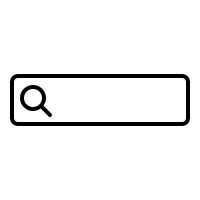
|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Exposure to cement dust** | Silicosis, irritation in nose and throat | **Link** |  |  |  |  | **Link** | **Link** | R-8 |
| **Manual lifting and handling** | Immediate injuries, long term health issues | **Link** |  |  |  |  | **Link** | **Link** | R-9 |
| **Contact with wet cement** | Causes damages to skin, tissues and lungs | **Link** |  |  |  |  | **Link** | **Link** | R-10 |
| **Noise** | Irritation | **Link** |  |  |  |  | **Link** | **Link** | R-11 |

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| **Hazards** | **Consequences** | **Description** | **Likelihood** | **Severity** | **Measured Risk** | **Risk Rank** | **Risk Response** | **Mitigation Technique** | **Risk**  **Id** |
| **Contact with wet cement** | Causes damages to skin, tissues and lungs | **Link** |  |  |  |  | **Link** | **Link** | R-17 |
| **Improper use of PPE** | Peeling of skin, inflation | **Link** |  |  |  |  | **Link** | **Link** | R-18 |

**Task04: Concreting:**

GRAPHS

User Interface will look like:



**Construction Task:**



Use Instructions….