SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

Shock from wet wall

Shock from wet wall

- During the rainy season more complaints came of wet wall giving electric shock.
- It was found that the electrical wiring of the building was not in good condition.
- The insulation of phase wires was found damages and was surrounded by the water vapours or moisture.
- This led to electrical leakage due to the wall being wet.
- The wall assumed some voltage and anybody coming in contact with the wet wall got electric shock.
- To rectify the situation, the damaged wires were replaced by healthy ones.

Causes of Shock from wet wall

Understanding Electric Shock from Wet Surfaces

•**Electrical Conductivity of Water**: Water, especially when it contains impurities (like minerals, salts, or metals), is a good conductor of electricity. When a wet surface, such as a wall, comes in contact with a live electrical source, it can conduct electricity and pose a severe risk to anyone who touches it.

•**Common Causes**:

- **Faulty Wiring**: Exposed or poorly insulated electrical wiring that runs within or along the walls.
- **Water Leakage**: Water seepage from plumbing issues, rainwater, or condensation that reaches electrical outlets or wires.
- **Improper Grounding**: Inadequate or faulty grounding of electrical systems may result in the accumulation of electric current in a wet area.

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Causes of Shock from wet wall

Defective Appliances: Faulty appliances near wet surfaces can create hazards if they leak current.

2. Potential Consequences

- **Risk of Injury**: Electric shocks from wet walls can cause burns, muscular contractions, and potentially fatal outcomes such as heart arrhythmia or cardiac arrest.
- **Property Damage**: Electrical surges caused by wet surfaces may damage electrical installations or nearby devices.
- **Secondary Hazards**: Shock incidents can lead to falls or other accidents that result in secondary injuries

Causes of Shock from wet wall

Conditions that Heighten the Risk

- **High Humidity**: Buildings or environments with high humidity can worsen the situation. Moisture in the air may condense on walls, especially near electrical fixtures.
- **Weather Events**: Flooding or water leaks from heavy rainfall may lead to electric shocks if water reaches electrical components embedded in or attached to walls.
- **Old or Damaged Infrastructure**: Old buildings with deteriorating walls or electrical installations are particularly vulnerable to this type of incident.

Prevention Measures for Shock from wet wall

- **Regular Electrical Inspections**: Schedule inspections to check for exposed wiring, faulty insulation, or other potential hazards.
- **Use Ground Fault Circuit Interrupters (GFCIs)**: These devices are designed to shut off electrical circuits when they detect an imbalance between the incoming and outgoing current, which often happens in wet environments.
- **Waterproofing**: Ensure that walls are adequately waterproofed, particularly in areas prone to moisture, such as kitchens, bathrooms, and outdoor walls.

Prevention Measures for Shock from wet wall

- **Proper Insulation**: Ensure electrical systems and appliances near wet or humid areas are well insulated and in good condition.
- **Maintain Dry Conditions**: Dry out any damp walls or areas immediately, and avoid using electrical devices near water.

5. Emergency Response

- **Turn Off Power**: If someone suspects or experiences an electrical shock from a wet wall, the power supply should be cut off immediately (use the breaker).
- **Stay Clear of the Area**: Avoid contact with wet walls and any surfaces connected to live electrical wiring until the area is deemed safe.
- **Seek Medical Attention**: If someone is electrocuted, provide first aid and seek professional medical assistance, even if the injury appears mild.

Prevention Measures for Shock from wet wall

Legal and Code Compliance

- **Building Codes**: Most countries have electrical codes (e.g., the NEC in the U.S.) that set standards for wiring and electrical installations to minimize risks. Ensuring that the building adheres to these codes can prevent shock hazards.
- **Permits for Electrical Work**: Always ensure that electrical work, especially repairs or installations, is performed by certified electricians to avoid issues like exposed wiring.

THANK YOU