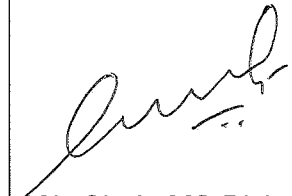
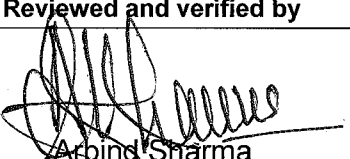
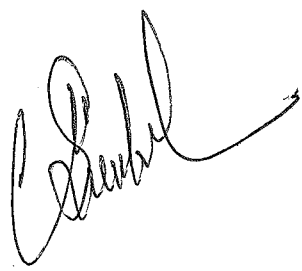




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TECHNICAL STANDARD (TS)

INSULATION WORK SAFETY

Prepared by	Reviewed and verified by	Authorized by
 M/s Chola MS Risk Services (Bhamodayar V) 09/02/2023	 Arbind Sharma (Project Head - Infrastructure)	 Santhosh Mundhada (Executive Director)
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20-02-23

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Document Change Note

Rev. No	Rev. Date	Comments / Changes
00	05-01-2023	New Issue



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1 PURPOSE

To prevent accidents & protect health of worker while carrying out Insulation activity.

2 SCOPE

This procedure shall apply to all AMNS project sites and related work areas including contractors to meet –

- Legal and regulatory requirements
- AMSN HSE requirements
- ISO 45001 and ISO 14001 standard requirements

3 DEFINITIONS AND ABBREVIATIONS

Insulation:

The process of keeping heat, sound, or electricity from spreading or being transferred from one body to another.

Insulation Material:

Materials that are very poor conductors of energy like heat, sound, electricity. Common insulation materials are wool, fiberglass, rock wool, polystyrene, polyurethane, and goose feather etc.

Thermal Insulation:

It is the reduction of heat transfer (i.e., the transfer of thermal energy between objects of differing temperature) between objects in thermal contact or in range of radiative influence.

Asbestos Containing Insulation Material:

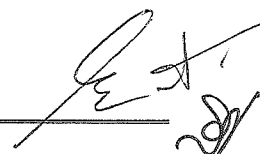
Asbestos-Containing Material (ACM) is any material containing more than one percent asbestos. These materials are considered hazardous and associated with certain diseases and health concerns.

ASBESTOS CONTAINING INSULATION MATERIALS ARE BANNED.

4 RESPONSIBILITIES

The Project Head is responsible for ensuring that the project is in compliance with the general requirements and those given in this procedure.

The Project HSE Manager is responsible for monitoring the implementation of the procedure.



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5 INSULATION ACTIVITY - SAFETY ASSURANCE PROCESS

5.1 HAZARDS

The various hazards to employees involved in Insulation activity are:

- Asbestos insulation (or contaminated vermiculite) is carcinogenic & Asbestos insulation exposure can cause cancer. Hence, **insulation materials containing Asbestos are banned at AMNS project sites.**
- Glass wool can cause Skin, Eye and Respiratory tract Irritation
- Dust Hazard
- Sharp edges of insulation material
- Height (Fall of person / object while working at height)
- Fall of duct
- Inadequate & improper access
- Harmful Chemicals
- Machines / tools (used in cutting insulation material)
- Tripping hazard

5.2 STOCKING AND MATERIAL HANDLING

- The packs shall be placed on the plain and rigid surface, raised by means of wood squared timber or polystyrene spacers, in a way to make down flow the water. This is to prevent the insulation fibers from entering water body.
- The packs shall be covered with tarpaulins, to prevent fibers from mixing in air.
- Insulation materials shall be transported by mechanical means, to the maximum possible extent. If to be handled manually, workers shall use personal protective equipment like safety helmet, goggles, coverall, cut resistant gloves.
- Secure all loose insulation at storage area from high wind.
- Minimize Dust Generation - Retain the material in its packaged form for as long as possible. Unpack the insulation only ready to install. The insulation can expand as much as 1,000 percent once opened. This may introduce fiberglass dust into circulation.
- Use of compressed air shall be avoided for cleaning to minimize dust generation.

5.3 INSTALLATION WORK

- Supervisor shall ensure that the duct is adequately supported in its position.
- Scaffolding shall be provided for workmen to access the work spot (Refer: AMNS/ Project/ TS/ HSEM/ 03 – Scaffold Safety)
- Insulation material cutting (to required size) shall be done at enclosed designated place to avoid insulation fibers blown away by air.

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- Avoid using power tools where possible and instead opt for hand-held tools. If you do need to use power tools, make sure you have a dust extractor to minimize the amount of dust created.
- Hand tools & portable power tools shall be inspected and confirm to the standard AMNS/ Project/ TS/ HSEM/ 07 - Hand Tools & Portable Power Tools Safety
- Scrap insulation shall be put in a covered container.
- Maintain adequate ventilation in the work area.
- While using the adhesives / chemical, the supervisor have the safety precautions mentioned in the MSDS being implemented. Refer document AMNS/ Project/ TS/HSEM/15 – Management of Hazardous Substance
- If the insulation work requires any heating, the heating equipment shall be inspected and approved prior to its usage. Refer document AMNS/Project/ SOP/ HSEM/04 - Hot Work Safety
- Wear proper PPE & Respiratory Mask as per the MSDS (material Safety Data Sheet)
- Worker shall wear separate working clothes from normal clothes – Long-sleeved shirts and long-legged pants. This will prevent contamination of other clothes with the insulation material.

5.4 DISPOSAL

- Waste insulation material should be stored in a closed container.
- The waste insulation should be treated as hazardous waste and stored and handled accordingly. Refer document AMNS/Project/ SOP/ HSEM/11- Waste Management Plan
- These waste shall be disposed as hazardous waste only, through government approved third party.

5.5 MINIMUM PPE REQUIREMENT

Head Protection	Helmet with Chin strap	Hand Protection	Cut resistant gloves
Eye protection	Safety glasses	Foot Protection	Safety shoes
Body Protection	Coverall	Respiratory Protection	Mask

6 CHECKING, CORRECTIVE AND PREVENTIVE ACTION

Periodic inspections shall be carried out to assess compliance to this procedure.

Any deviations shall be reported to Project Head & Corrective and preventive action shall be taken.

7 TRAINING

- All employees shall be trained in general hazards and precautions to be taken while working with insulation materials.
- Relevant supervisors/ engineers shall be trained in this procedure for compliance



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8 REFERENCE

1	AMNS/Project/SS/HSEM/10	Work permit
2	AMNS/Project/SOP/HSEM/04	Hot work
3	AMNS/Project/SOP/HSEM/11	Waste Management Plan
4	AMNS/Project/TS/HSEM/03	Scaffold Safety
5	AMNS/Project/TS/HSEM/04	Height work
6	AMNS/Project/TS/HSEM/07	Hand Tools & Portable Power Tools Safety
7	AMNS/Project/TS/HSEM/15	Management of Hazardous Substance

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