

**GNDEC SOA
GILL PARK, LUDHIANA
BUILDING MATERIAL**

BARCH408/21

SUBMITTED TO:

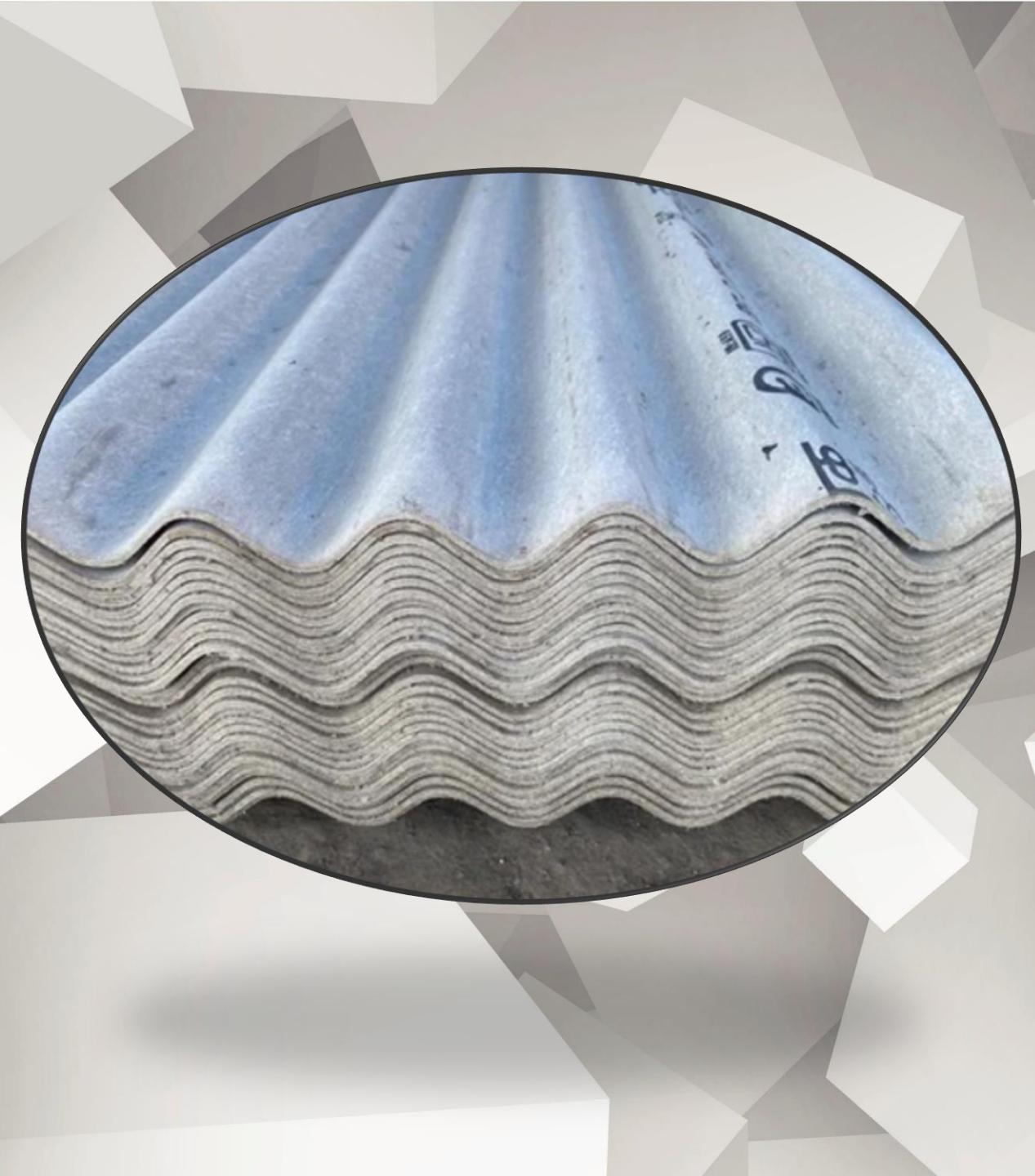
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BARCH 4TH SEM

**ASBESTOS
CEMENT
SHEETS**



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ASBESTOS CEMENT SHEETS

- ❖ These are the sheets obtained by the combination of cement with about 15% of asbestos fibres.
- ❖ Do not require any protective coating and not decay or eaten by insects, durable, light, cheap and fire resistance that's why commonly used for sloping roof.
- ❖ While laying A.C. sheets, should be ensured that their smooth surface is kept upwards and end marked kept towards the ridge, not towards eaves.



PLAIN ASBESTOS CEMENT SHEETS



CORRUGATED ASBESTOS CEMENT SHEETS

CONSTITENTS

- ❖ Asbestos cement sheets, whether plain or corrugated, typically consist of a mixture of cement and asbestos fibres. The exact composition can vary, but asbestos fibres are usually added to reinforce the cement matrix, providing strength and durability to the sheets.
- ❖ The asbestos fibres are often chrysotile (white asbestos), but may also include other types such as amosite (brown asbestos) or crocidolite (blue asbestos).
- ❖ However, due to health concerns associated with asbestos exposure, many countries have banned or strictly regulated the use of asbestos-containing materials, including asbestos cement sheets, in construction.

PROPERTIES

- ❖ Durability: Asbestos cement sheets are durable and resistant to weathering, making them suitable for outdoor use in various climates.
- ❖ Fire Resistance: Asbestos cement sheets have good fire-resistant properties, which can help protect buildings from fire hazards.
- ❖ Strength: The addition of asbestos fibres reinforces the cement matrix, providing strength to the sheets, making them capable of withstanding the weight of people walking on them and other loads.



- ❖ Insulation: Asbestos cement sheets offer thermal insulation properties, helping to regulate temperature within buildings by reducing heat transfer.
- ❖ Lightweight: Despite their strength, asbestos cement sheets are relatively lightweight, making them easier to handle and install compared to other roofing materials.
- ❖ Resistance to Corrosion: Asbestos cement sheets are resistant to corrosion from moisture, chemicals, and environmental factors, increasing their lifespan and reducing maintenance requirements.
- ❖ Sound Insulation: These sheets can provide some degree of sound insulation, helping to reduce noise transmission from outside sources.

USES

- ❖ Residential Roofing: Asbestos cement sheets are commonly used in residential buildings as roofing material. Their durability, fire resistance, and ability to withstand weathering make them suitable for protecting homes from the elements.
- ❖ Industrial and Commercial Roofing: These sheets are also used in industrial and commercial buildings for roofing purposes. Their strength and resistance to corrosion make them suitable for use in warehouses, factories, and other industrial structures.
- ❖ Agricultural Buildings: Asbestos cement sheets are often used in agricultural buildings such as barns, poultry houses, and storage sheds due to their affordability and resistance to environmental factors.



- ❖ Temporary Structures: They are sometimes used in temporary structures or construction sites as a quick and cost-effective roofing solution.
- ❖ Shelters and Outbuildings: Asbestos cement sheets are used in shelters, outbuildings, and other structures where a simple and durable roofing material is needed.
- ❖ Low-cost Housing: In some regions, asbestos cement sheets have been used in low-cost housing projects due to their affordability and ease of installation.
- ❖ Waterproofing: Asbestos cement sheets can also be used as waterproofing material for roofs when properly installed and sealed.

PROCESS OF LAYING OF SHEETS

- ❖ Preparation: Before laying the sheets, ensure that the roof structure is properly prepared and structurally sound. This may involve repairing any damaged or deteriorated areas, ensuring proper support for the sheets, and cleaning the surface to remove any debris.
- ❖ Safety Precautions: Since asbestos-containing materials pose health risks, it's essential to take proper safety precautions. This includes wearing appropriate personal protective equipment (PPE), such as gloves, goggles, and a respirator, to minimize exposure to asbestos fibres.
- ❖ Measuring and Cutting: Measure the dimensions of the roof to determine the required size of the asbestos cement sheets. Use a cutting tool, such as a circular saw or shears specifically designed for cutting asbestos cement, to cut the sheets to the appropriate size.
- ❖ Handling: Handle the asbestos cement sheets with care to avoid breakage or damage. Lift and carry them carefully to prevent the release of asbestos fibres into the air.

- ❖ Installation: Start by laying the first row of sheets along the eaves of the roof, ensuring that they are properly aligned and secured in place. Use roofing nails or screws to attach the sheets to the roof structure.
- ❖ Overlap: When laying subsequent rows of sheets, overlap each sheet over the previous one to ensure proper water drainage and prevent leaks. The amount of overlap will depend on the pitch of the roof.
- ❖ Sealing: Seal the joints between sheets using an appropriate sealing compound or tape to prevent water penetration and ensure a watertight seal.
- ❖ Ridge Capping: Install ridge capping along the ridges of the roof to cover and protect the exposed edges of the sheets. Secure the ridge capping in place using roofing nails or screws.
- ❖ Finishing: Once all the sheets are installed, inspect the roof for any gaps, loose fasteners, or other defects. Make any necessary repairs or adjustments to ensure that the roof is properly sealed and secure.
- ❖ Cleanup: Clean up any debris or waste materials from the installation process, following proper disposal procedures for asbestos-containing materials according to local regulations.

THANK YOU