REVIEW ANALYSIS OF INDIAN STANDARD

(To be submitted to the Sectional Committee)

1. **Sectional Committee No. & Title:**Building Construction Practices Sectional Committee CED 13

2. **IS No: IS : 3140-1965**

3. **Title: Code of Practice for Painting asbestos cement building products**

4. **Date of review:**

5. **Review Analysis**

i) Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

Standard (No.& Title)	**Whether the standard has since been revised**	**Major changes**	**Action proposed**
DEKRO PAINTS	No	1. SCOPE	New Addition 1.1 c) Roof Tiles, insulation Boards(fire proof cladding, thermal insulation board and acoustic panels) d). Eaves, gutters and water tanks
DYCZEK 2006/ Mobilization of asbestos fibres by weathering of a corrugated asbestos cement roof		4. CHARACTERISTICS OF THE SUBSTRATA AND TREATMENT	Addition in Existing 4.1.1 Weathering- Asbestos cement products are especially prone to weathering if calcium hydroxide in cement comes in contact with acidic rain or dissolves slowly in water. Chrysotile fibres

			are more resistant to weathering than the cement matrix and can appear as a layer on the surface. When exposed to weathering and erosion, particularly when used on roofs, the surface deterioration of asbestos cement can release toxic airborne fibres.
LIQUASIL		4.3 Fungus Growth	New Addition 4.3.1 Cleaning methods: • Fungicidal Wash: Fungus can be removed by means of fungicidal wash. It is removed by simply diluted bleaches that kill moss on contact, resulting in it detaching from the roof surface and falling into the gutters. This cleaning process takes several months to take effect before the moss disappears and also the quality of cleaning is not enough by this method. • Closed Box: It is dangerous to use pressure washers with ordinary

			nozzles on asbestos roofs, since the pressure can destroy the surface and contaminating the area beneath. This is a safer and HSE approved method and is similar to a patio cleaner attachment, but larger and more complex, often with wheels to allow it to be pulled up and down roof slopes with ease. Because the jet of water is constantly spinning and the box is moving, it is less likely that it will damage the surface of the roof. This method can result in water ingress and gutter overflow due to the amount of water being used. All waste water must be filtered and slurry collected and disposed of as contaminated waste. • Wet Scrape: Most asbestos roofs are covered in moss, lichen and other types of

			fungul growth. This adds to the weight of the roof and in extreme cases, can penetrate the asbestos cement, severly weakening the already fragile surface. The first stage to cleaning should therefore be to wet down the roof and scrape off any weed or moss growth, which should be placed into designated asbestos waste bags. The waste must be considered to be contaminated and therefore should be disposed of by a licensed contractor and a consignment note issued and filed for the health and safety file. A wet scrape can be carried out in isolation if heavy vegetation is to be removed. • Steam cleaning: Steam cleaning is less commonly used than other methods, as itb is not an HSE approved process. This does not

			mean that steam cleaning can not be undertaken, rather that more care has to be taken to ensure that safe working practices are adhered to. Steam cleaning machines are available that deliver up to 150º C steam to the lance. This kills moss and lichen on contact, resulting in a much deeper clean that using water alone. Steam begins to evaporate as it leaves the lance, resulting in far lower water run-off into the gutters, reducing the chance of water ingress and overflow. Waste water needs to be filtered and residue disposed of as contaminated waste.
Asbestos.vic.gov.au		5.PREPARATION OF SURFACE	New Addition 5.1.1 Do not use high-pressure water blasters to clean the asbestos surface as it is not

			safe for people or the environment. It is now illegal to clean a fibro roof with high-pressure water because it destroys the surface, causing cement and asbestos dust and debris to be sprayed into the air. 5.4 In case of worst effected areas, treat an asbestos roof with lighting cleanse biocide diluted 5:1. Follow this by applying Tornado cleanse as a spot cleaner on the worst affected areas. 5.5 In case there is lot of black lichen, leave it for a good 60 minutes to activate. If black lichen has been allowed to grow into an asbestos roof, it will probably need gentle scraping after the first treatment with lightening cleanse biocide. Now post treat asbestos roofs with Bio cleanse, which will reduce re-colonization and extend the time that the roof stays clean and free from re-contamination.

			5.6 Safety precautions to be taken: 5.6.1 When handling and disposing: i). Wear the appropriate personal protective clothing and equipment. ii).Thoroughly wet down the material before the start and regularly during the work by lightly spraying surfaces with water or at 1 :10 polyvinyl acetate (PVA) water solution or with low-pressure water from a garden hose(if outdoors). Keep the asbestos wet until it is packaged for transport. iii). Use non-powered hand tools as these generate smaller amounts of dust and produce waste chips that are coarser than those generated when using power tools. iv). Pull out any nails first to help remove sheeting with minimal breakage. v). Carefully lower

			the sheets to the ground and stack on two layers of polythene sheeting at least 0.2 mm thick. vi). Minimize cutting or breaking of the asbestos cement products. vii).Remove and dispose of personal protective equipment. viii). Shower and wash hair immediately afterwards and regardless of whether gloves were used. Thoroughly clean hands and fingernails to remove any dust and asbestos that may be on the body. ix). Do not use high-pressure water jets to wet surfaces as this may increase the spread of loose fibres or dust. x). Do not slide one sheet over the surface of another as this may damage the surface of the materials and increase the likelihood of releasing fibres

			and dust. xi). Do not use power tools, abrasive cutting or sanding discs or compressed air on asbestos cement, as these will contribute to airborne dust and debris. xii). Do not use dry sand, wire brush or scrape surfaces to be painted. 5.6.2 When working indoors: i).Isolate the working area from the rest of the building by closing and sealing internal doors. ii).Leave external doors and windows open to maximize ventilation. iii). Cover the floor with heavy duty plastic sheeting to catch dust, debris and offcuts. iv). Keep households members, visitors and pets away from the area until the work is completed and the area is cleaned. v). Do not spread asbestos dust

			through areas of the building that are not protected by plastic sheeting. 5.6.3 When working outdoors: i).Inform the neighbours of the proposed work and advise them to close doors and windows while the work is being undertaken. ii). Close all windows and doors of home and cover air vents to prevent asbestos fibres from entering the building. iii). Avoid contaminating the soil by covering the ground and vegetation with heavy duty plastic sheeting to catch dust, debris and offcuts. iv). Remove play equipment, personal belongings and vehicles from the work area. v). Keep household members, visitors and pet away until the work is completed and the area is cleaned. vi). Do not wet

			down roofing sheets if this creates a high risk of slipping off a roof. vii). Do not work asbestos on a windy day. 5.6.4 Clean up: i).Visually inspect the asbestos work area to make sure it has been properly cleaned. ii).Consider seeking a competent independent person's visual assessment to confirm there is no visible asbestos residue. iii).Clearance air sampling is not normally required for this task. iv).Dispose of all waste as asbestos waste.
Queensland Government Asbestos 13QGOV(137468)		7.PAINTING	New Addition 7.2 When it comes to painting over asbestos roof sheets, the best option is to use paint specificially designed for use on asbestos materials. These paints are usually

			epoxy-based or polyurethane-based and provide a protective coating that prevents the release of hazardous fibres into the air. They also help to reduce corrosion, which is important in areas with high levels of humidity.Other paints that are suitable for use on asbestos roof sheets include elastomeric roof coatings, acrylic latex coatings and specialized metal and asphalt-based paints. The paint should be resistant to ultraviolet(UV) radiation and water in order to protect the roof from weather damage. 7.3 Qualities of paint: i). High performance ii).Quick drying iii).Low odour iv).High bond and maximum adhesion v). High durability vi). Long lasting colour retention 7.4 Equipments Needed: i). Scaffolding, edge protection, suitable ladder etc.

			ii). Several 200 micron (0.2 mm) thick plastic bags for asbestos waste. iii). Filter membrane (media filter) and filter socks fitted to each downpipe. iv). Duct tape and metal tent pegs. v). Suitable ladder for roof access. vi).Long garden hose (without the nozzle). vii).Watering cane (9L) or (5L) garden pressure sprayer. viii). Packet of heavy duty wet pipes (large size). ix) Personal protective equipment (PPE) e.g. gloves, protective eye wear, coveralls, hard hat and fall arrest system. x). Respiratory protective equipment (RPE) that is fitted to face and minimum class P2. xi). 35 L container (623x423x190mm). xii). Mould control (fungicide).

			xiii).Roof primer and roof paint. xiv). Flow through water soft bristle brush. 7.5 Prepare the work area: i). Install suitable scaffolding, edge protection and /or a fall arrest system. ii).Contact the electrical distributor to install a visual aid like a tiger tail on the powerlines coming into the property. iii).Disconnect stormwater down pipes from the gutters at ground level. iv).Place the filter membrane under the pipe and then fit and secure a filter sock onto the down pipe above the filter membrane. Repeat this process on all downpipes. v).Never use high-pressure water cleaning methods. vi).Never prepare surfaces using dry-sanding methods. When sanding is required

			consideration needs to be given to removing the ACM and non-ACM. vii).Wet sanding methods may be used to prepare the material provided precautions are taken to ensure all the runoff is captured and filtered where possible. viii).Wipe dusty surfaces with a damp cloth. 7.6 Preparation and painting: Work should be carried out only on dry roof as asbestos roofs are slippery when wet. i).Wearing roof appropriate PPE and RPE, apply mould control (fungicide) with a watering cane or garden pressure sprayer. ii).After the fungicide has dried, connect the flow-through water brush to the garden hose and turn the water on at low level. iii).Wash the whole roof and use the

			brush to push loose residue towards the gutters. iv).Disconnect the hose from the flow-through brush. Using the hose with the water flowing, push the residue in the guttering to the downpipe until the gutters are clean. The filter membrane will capture any roof residue. v).While waiting for the roof to dry, wipe down the hose with wet pipes and place the wetted flow-through broom into an asbestos waste bag along with any wipes. vi).While leaving the roof, wipe down the ladder rungs and step into the flat container(wash trough) to clean the shoes. v).Remove the gloves and RPE and place them into a waste bag. vi).Prepare to apply primer with a brush and paint roller, not a compressor. This method does not disturb the roof

			sheet surface and ensures better application and adhesion. vii).When the roof surface is dry, apply the primer over the whole roof. When the work is finished, dispose of the roller and brush as asbestos waste. viii).Follow the decontamination process as with the fungicide application. ix).When the primer is dry, apply two coats of roof paint. Now no need to wear asbestoss PPE and RPE this time because the primer is sealing the surface. However, it mighty need PPE for the paint itself. x).Double-bag decontaminated equipment if using on the next site. xi).Double-bag asbestos waste and dispose of it correctly.

ii) Status of standards referred in the IS

Referred standards (No. & Title)	IS No. of this standards since revised	Changes that are of affecting the standard under review	Action proposed

iii) **Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard)**

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed

iv) **Technical comments on the standard received, if any**

Source	Clause of IS	Comment	Action proposed

v) **Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)**

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed

vi) **Issues arising out of changes in any related IS or due to formulation of new Indian Standard**

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	Related IS Title	Requirements to be impacted

6. Any other observation:

7. Recommendations:

To refer the following segment for the proposed for the proposed changes marked in red.