



Uhde India Limited

**PART – II
SECTION-20
TECHNICAL SPECIFICATIONS
ANTITERMITE TREATMENT**

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Page : 1

Contents	Page
SCOPE	2
CODES	2
GENERAL	3
CHEMICAL TREATMENT	4
SAFETY PRECAUTIONS	7
METHOD OF MEASUREMENT AND RATES	7

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20.1**SCOPE**

This treatment covers the general requirements for Anti-termite Constructional Measures, chemical treatment of soils for the protection of buildings from attack by subterranean termites, chemicals to be used with their minimum rates of application and procedure to be followed while the building is under construction.

20.2**CODES**

The following codes, standards and specifications are made a part of this specification. All specifications, standards, codes of practices referred to herein shall be the latest edition including all applicable official amendments and revisions. In case of discrepancy between this specification and those referred to herein, this specification shall govern:

1. IS:6313 Part I : Code of Practice for Antitermite Measures in Buildings Constructional Measures.
2. IS:6313 Part II : Pre-constructional Chemical Treatment Measures.
3. IS:6439 : Specification for Heptachlor Emulsifiable Concentrates.
4. IS:1307 : Specification for Aldrin Emulsifiable Concentrates.
5. IS:2682 : Specification for Chlordane Emulsifiable Concentrates.
6. IS:4015 Part I : Guide for Handling cases of Pesticide Poisoning First Aid Measures.
7. IS:4015 Part II : Symptoms, Diagnosis and Treatment



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20.3 GENERAL

- 20.3.1 Contractor shall furnish all tools, plants, instruments, qualified supervisory personnel, labour, materials, any temporary works, consumables, any and everything necessary whether or not such items are specifically stated herein for completion of the job in accordance with specification requirements.
- 20.3.2 All work shall be done in the order of progress required by Owner's construction programme.
- 20.3.3 Contractor shall take all necessary precautions to prevent any accident in connection with the performance of the work.
- 20.3.4 On final completion of all work, Contractor shall leave the entire premises within the site of his operation clean and free from all rubbish resulting from his operation.
- 20.3.5 Owner / Engineer reserves the right to inspect, check and direct any or all operations at any stage of the work and to require unsatisfactory work to be remedied at Contractor's expense.
- 20.3.6 No work shall be carried out under unsuitable weather conditions viz. when raining or when the soil is wet due to rain or sub-soil water etc.
- 20.3.7 Chemicals shall be brought to site of work in sealed original containers. The materials shall be brought in, at a time, in adequate quantity to suffice for the work. The materials shall be kept in cool and locked stores. The empties shall not be removed from the work site till the relevant item of work has been completed and permission granted by Owner/Engineer.
- 20.3.8 Chemicals available in concentration forms with concentration indicated on the sealed containers only shall be used. Chemicals shall be diluted with water in required quantity before use, using graduated containers to achieve the desired percentage of concentration:

Examples:

Aldrin Emulsifiable - 1 litre is diluted to 40

a) Mound Treatment

Termite mounds within the plinth and contingent apron area shall be destroyed by means of insecticides in the form of water suspension or emulsion which shall be poured into the mounds at several places after breaking open the earthen structure and making holes with crow bars. For a mound volume of about one (1) cu.m., four (4) litres of an emulsion in water of one of the following shall be used:

- i) 0.25 percent aldrin
- ii) 0.25 percent heptachlor
- iii) 0.5 percent chlordane

b) Soil Treatment

Any one of the following chemicals (conforming to Indian Standards) in water emulsion shall be applied uniformly over the area to be treated.

<u>Chemical</u>	<u>Concentration by weight</u> <u>percent</u>
Aldrin	0.5
Heptachlor	0.5
Chlordane	1.0

20.6

Treated of Column-pits, Wall Trenches and Basement Excavations

- a) The bottom surface and the sides (up to a height of about 300 mm) of the excavations made for column pits, wall trenches and basements shall be treated with the chemical at the rate of 5 litres per sq.m. of the surface area.
- b) After the column foundations and the retaining walls of the basement come up, the backfill in immediate contact with the foundation structure shall be treated at the rate of 15 litre per sq.m. of the surface of the sub-structure for each side. If water is used for ramming the earth-fill, the chemical treatment shall be carried out

after the ramming operation is done by rodding the earth at 150mm centres close to the wall surface and spraying the chemical with the above done. The earth shall be returned in layers and the treatment shall be carried out in similar stages. The chemical emulsion shall be directed towards the concrete or masonry surface of the columns and walls so that the earth in contact with these surfaces is well treated with the chemical.

- c) In the case of R.C.C. framed structures with columns and plinth beams and R.C.C. basements, with concrete mix 1:2:4 or richer, the treatment shall start at the depth of 500 mm below ground level for columns and plinth beams. From this depth the backfill around the columns, beams and R.C.C. basement walls shall be treated at the rate of 15 litres/sq.m. of surface. The other details of treatment shall be as laid down in clause (b) above.

20.7 Treatment of Top Surface of Plinth Filling

The top surface of the filled earth within plinth beams/walls shall be treated with chemical emulsion at the rate of 5 litres per sq.m. of the surface before the sand bed/subgrade is laid. Holes upto 50 to 70 mm deep at 150 mm centres both ways shall be made with 12 mm dia. crow bar on the surface to facilitate saturation of the soil with chemical emulsion.

20.8 Treatment of Junction of Wall and Floor

To achieve continuity of vertical chemical barrier to inner wall surfaces from the ground level, small channel 30 x 30 mm shall be made at all the junctions of wall and columns with the floor (before laying the subgrade) and rod holes made in the channel upto ground level 150 mm apart and the chemical emulsion poured along the channel at the rate of 15 litres/sq.m of the wall or column surface so as to soak the soil right to the bottom. The soil be tamped back into place after this operation.

20.9 Treatment of Soil Under Apron Along External Perimeter of Building

The top surface of the consolidated earth over which the apron is to be laid shall be treated with chemical emulsion at the rate of 5 litres/sq.m. of the surface before the apron is laid, by making rod holes 75 mm deep at 150 mm centres both ways.



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Page : 7

20.10 These chemicals are usually brought to site in the form of emulsifiable concentrates. The containers should be clearly labelled and should be stored carefully so that children and pets cannot get at them. They shall be kept securely closed.

20.11 Particular care should be taken to prevent skin contact with concentration. Prolonged exposure to dilute emulsions shall also be avoided. Workers shall wear clean clothing and wash thoroughly with soap and water, especially before eating, smoking. In the event of severe contamination, clothing shall be removed at once and the skin washed with soap and water. If chemicals splash into eyes they shall be flushed with plenty of soap and water and immediate medical attention shall be sought.

20.12 The concentrates are oil solutions and present a fire hazard owing to the use of petroleum solvents. Flames shall not be allowed during mixing.

20.13 Care shall be taken in the application of chemicals to see that they are not allowed to contaminate wells or springs which serve as source of drinking water.

20.14 Safety Precautions

All the chemicals mentioned above are poisonous and hazardous to health. These chemicals can have an adverse effect upon health when absorbed through the skin, inhaled as vapours or spray mist or swallowed. Persons handling or using these chemicals should be warned of these dangers and advised that absorption through the skin is the most likely source of accidental poisoning. The safety precautions as mentioned in IS 6313 Part II appendix B should be observed.

20.15 METHOD OF MEASUREMENT & RATES

The quantity shall be measured in terms of plinth area of building at Ground floor.

The rate shall include supply and execute the work as described including all cost of material, labour, equipment, all taxes and duties etc. complete in all respect.

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