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ASBESTOS REGULATIONS

ROYAL NAVY AND HM DOCKYARDS

APRIL 1969

MEDICAL RESEARCH UNIT
No. 1 EAST AVENUE
H.M. DOCKYARD (SOUTH)
DEVONPORT

Safety - Persons Exposed to Dust from Materials Containing Asbestos

1. This Instruction applies to all personnel, uniformed and civilian, and contractors' employees working in HM Ships and in Ministry of Defence premises.

The principal object of this Instruction is the reduction of the hazard arising from breathing air containing dust from asbestos.

This hazard arises when dust-forming operations such as handling, sawing, tearing, grinding etc., are performed upon materials containing asbestos which is not treated or bonded into the material such that dust cannot arise.

2. The best method of limiting the hazard is to introduce substitute materials that have a smaller asbestos content, or are preferably asbestos-free. The use of crocidolite (blue asbestos) and amosite has now been discontinued and trials are currently in hand which are likely to lead to a considerable reduction in the use of chrysotile (white asbestos).

Arrangements have been made for the asbestos cloth supplied to Dockyards to be given dust-suppression treatment before delivery.

The extent to which glass cloth can replace asbestos cloth is also being considered.

However, asbestos has unique properties which cannot readily be duplicated in other materials, particularly in its uses as a fire and heat resisting material, and as a binder of otherwise weak materials. For these reasons asbestos will continue to be used in engineering, and substitutes will be used only when both the health hazard exists and the properties of the substitute are adequate. There will therefore be hazardous materials in service for some time to come. All concerned in the use of asbestos containing materials must watch for hazardous applications and where necessary take the safety precautions described below.

Safe Working Practices - Policy

3. The policy to be adopted for the asbestos work that will remain is summarized below:-

a. The segregation of asbestos work from other work as far as practicable.

b. The classification of the types of asbestos work to enable the appropriate protection to be determined and provided for the various categories of workpeople employed.

c. The registration of certain workers employed on asbestos processes to facilitate medical supervision.

d. The introduction of improved materials and work methods to reduce the amount of dust.

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e. The provision of suitable protective clothing and equipment.

f. The provision of adequate cleaning and decontamination arrangements.

g. The introduction of standard methods of dust sampling and recording of dust levels.

Segregation of Tasks

4. The segregation of asbestos work presents certain difficulties, but segregation can usually be achieved by a combination of the following:-

a. Performing major de-lagging tasks in the pre-refit period.

b. Performing major de-lagging/lagging tasks on night shift during the refit period.

c. Performing the major lagging tasks after the completion of other work.

d. Sealing off the areas where hazardous asbestos work is underway and restricting entry to those directly engaged on the work.

A major factor to be considered when planning asbestos work is the necessity to reduce as far as possible the resulting penalty, both time and cost, on refits.

Classification of Tasks

5. To enable the degree of hazard to be more accurately assessed the processes involving the use of asbestos have been divided into the following classifications:-

a. Removal of sprayed limpet asbestos. (The application of sprayed limpet asbestos is no longer specified).

b. Major de-lagging.

c. Major lagging, and other large dust-forming operations on asbestos containing materials.

d. Minor lagging and de-lagging and other small scale dust-forming operations on asbestos containing materials.

e. Work in buildings where hazardous operations are performed upon asbestos containing materials, eg Lagging Shop, Boiler Shop, Joiners Shop, etc.

f. Asbestos stores.

The appropriate protection for workpeople engaged on any of the above process classifications will depend on the level of dust concentrations they are exposed to and the duration of exposure.

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Classification of Workpeople

6. Workpeople have been classified into categories to assist in the selection of suitable protection. The categories will be as follows:-

a. Registered Asbestos Worker - A person directly engaged on one of the asbestos processes listed in paragraph 5.

b. Neighbourhood Worker - A person employed on other work, within, or in the vicinity of, the area in which an asbestos process is taking place, who may be exposed to asbestos dust.

c. Management Visitor - A person required to visit the work site intermittently for relatively short periods.

d. Other persons using small amounts of asbestos intermittently.

Registered Asbestos Workers

7. The workpeople to be designated as Registered Asbestos Workers are:-

a. Laggers.

b. Nominated Fitters, Boilermakers, Bricklayers, Smiths, Shipwrights, Joiners, Painters and Plumbers.

c. Labourers regularly employed on cleaning duties in compartments where asbestos materials have been used.

d. Workpeople employed in asbestos stores.

Before being accepted as a registered asbestos worker each employee is to be medically examined. The medical examination is to include a full plate x-ray and such other special examinations as may be required by the Medical Officer carrying out the examination. All employees on the register are thereafter to be examined annually, including full plate chest x-ray whilst they remain in Ministry of Defence (Navy) employ, even if they are no longer employed on asbestos work. The responsibility for seeing that registered asbestos workers are "in date" rests with the employing department whilst that for carrying out the examinations rests with the SMO of the Dockyard.

Full service and medical records are to be kept for each registered worker. These records are to be transferred to the employee's next place of employment within MOD should he or she be reappointed.

The number of registered asbestos workers is to be kept to a minimum. No person under the age of 18 is to be employed on any asbestos process or classified as a registered asbestos worker.

Persons employed intermittently on work involving asbestos-containing materials should not be designated as asbestos workers but should be provided with approved dust respirators for this work.

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RN Personnel

8. Naval personnel should not be registered as asbestos workers as it should not be necessary for them to work with asbestos except in an emergency or on minor, but essential, repair work. Whenever such work has to be undertaken by ship's staff and a dust hazard is created, all personnel in the area should take the precautionary measures applicable to minor lagging and delagging work (Annex A to this Instruction).

Working Practices

9. When asbestos work is in hand the major aims must be:-

a. to produce as little airborne dust as possible;

b. to confine the dust that is generated to as small an area as possible;

c. to clean compartments thoroughly after the completion of asbestos work.

10. To achieve these aims it is recommended that:-

a. where practicable asbestos insulation be damped when being cut and fitted to minimize dust. Care should be taken that too liberal an application of water is not made before fitting insulation otherwise corrosion of the underlying pipework, etc. could result;

b. when working on hazardous asbestos materials a pan of water should be positioned beneath the work to catch dust and debris;

c. extensive use should be made of impervious materials such as polythene curtains, etc. to confine the dust and catch the asbestos debris;

d. where possible, adequate supply and exhaust ventilation to the work sites should be arranged. Where mechanical air supply is necessary the arrangements adopted should avoid disturbance of dust. The exhaust is to be led to the open air via a dust filter capable of retaining particles down to 0.5 micron size. Where practicable, local exhaust ventilation ducts are to be led to the vicinity of work to extract dust at source;

e. portable clean air units, capable of filtering pulverized cement/asbestos dust, should be used in compartments where delagging is taking place;

f. all asbestos dust should be cleaned up at regular intervals by "Jet Vac" or other type of industrial vacuum cleaner. The final dust removal should be by a vacuum cleaner capable of filtering to 0.5 micron size;

g. all asbestos debris and dust is to be collected in paper sacks, for disposal either by dumping at sea (care being taken to ensure that the sacks sink) or by burying on municipal rubbish tips. If the

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latter course is adopted the municipal authorities are to be informed in advance so that suitable measures to eliminate the health hazard can be arranged. Before the sacks are filled they must be clearly and boldly marked on both sides with the warning "DANGER - ASBESTOS - DO NOT INHALE DUST - HANDLE WITH CARE - DO NOT OPEN". Consideration is being given to the introduction of a suitably marked sack, and details will be promulgated separately;

h. under certain circumstances, particularly where sprayed limpet asbestos has been removed, it may be necessary to wash down the compartment boundaries with fresh water subsequent to final vacuuming. Where vacuuming and washing does not satisfactorily remove the asbestos dust, surfaces are to be sealed by painting;

i. compartments in which asbestos work as detailed in paragraph 5 a, b, c, has taken place are not to be opened for general occupation until full cleansing has taken place.

Packaging

11. A Naval Store Packaging Specification for asbestos, glass fibre and similar materials will be promulgated shortly and in future these products will be supplied in dust-proof packaging.

Broached packages containing asbestos materials should be kept closed and resealed by self-adhesive tape available from Naval Stores. Paper-lined jute sacks should be reclosed by folding the tops over as far as possible and securing the folds with twine or tie wire.

Protective Clothing and Equipment

12. Annex A specifies the protective clothing and equipment that is to be worn by Registered Asbestos Workers, Neighbourhood Workers and Management Visitors for the various asbestos processes, and includes typical warning notices that are to be displaced in the vicinity of the work sites.

13. The respirators recommended for use in atmospheres contaminated with asbestos dust are:-

a. Siebe Gorman Mk. VIII Respirator, single filter.

b. Siebe Gorman Respirator, VHE twin filter.

c. Respirator, dust, Baxter Mk. V complete.

d. Hood, plastic air fed, complete, used in conjunction with filter unit, 4-way.

e. Martindale Positive Pressure Powered Respirator.

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In addition to the above range of respirators, Respirator, dust Vista Filter, complete with dust cartridge, is suitable for use by Management Visitors to asbestos work-sites and for increased protection can be worn with Hood and Cape PVC. Respirators when assembled have no outward indication of the type of inner cartridge fitted; it is imperative, therefore, that a check be made on every occasion of use to ensure that the cartridges fitted are appropriate to the task. The respirator is to be personal to the individual and on issue it is to be examined by a supervisor to ensure a good fit. It is to be inspected and cleaned at intervals of not more than 14 working days. Before a returned respirator is reissued it is to be disinfected in accordance with the procedure laid down in Annex B. Cartridge dust filters are to be changed after 14 days' use or earlier if clogged with dust. Pre-filter pads are to be changed daily or more frequently, as necessary, in heavy concentrations of dust. RN personnel are to be issued with respirators on loan when necessary.

14. All registered asbestos workers are to wear the special green nylon overalls and skull-caps except where extreme concentrations of dust are encountered when the use of overalls manufactured of an impervious material, eg rubberised fabric or similar is mandatory. Asbestos dust is to be removed from overalls by vacuum cleaning before overalls are sent to be laundered. Paper sacks similar to those referred to in paragraph 10 g. are to be used for despatching overalls, etc. to laundries, except that the warning notice on each side of the sack to read "WARNING - CONTAINS ASBESTOS CONTAMINATED CLOTHING". Laundry and other personnel regularly handling overalls, respirators, etc. contaminated with asbestos dust should be acquainted with the need to avoid shaking out such items in order to minimize the spread of dust. Overalls should not be removed from the sacks until they can be tipped directly into a washing machine so that they are at once completely wet.

Food, Drink and Smoking

15. No person is to prepare or partake of food or drink in any compartment in which asbestos work is being carried out. No smoking is to take place where work specified in paragraph 5 a., b., and c., is being carried out.

Amenity Centres

16. Separate amenity centres are to be provided for the use of asbestos workers. These centres are to be provided with the following facilities:-

a. A "Man Cleaner" installation or vacuum-cleaning equipment for removing the dust from workpeople before they enter the centre.

b. Clothing lockers for personal clothing.

c. Lockers and racks for issued items, eg underclothing, overalls, skull caps, neck cloths, gloves, socks, boots, respirators, etc.

d. Showers and washbasins, soap and towels.

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e. Facilities for cleansing and disinfecting respirators and other items of protection.

f. Dining-room facilities.

Dust Sampling

17. Dust sampling units are being set up in each Dockyard to measure and record the levels of asbestos dust in areas where employees are working on asbestos containing materials. The results obtained are to be compared with standards laid down in the Asbestos Regulations 1968 (due to come into force in 1969). These standards are intended as a guide to the protective measures necessary in any given situation and should be used to test the suitability of these protective measures.

Details of the equipment required and the method of collecting and evaluating airborne asbestos dust samples have been promulgated separately.

Education

18. Every effort must be made to instruct all personnel likely to be exposed to asbestos dust of the nature of the hazard and the protective measures to be adopted. The opportunity should also be taken at Refit Conferences and other meetings to discuss with Ships' Staffs how these precautions will be implemented.

19. This Instruction supplements but does not replace the relevant regulations under the Factories Acts.

ANNEX A

Type of Work	Sprayed Limpet Asbestos	Major de-lagging	Major lagging and other major dust forming operations on materials	Minor lagging/ delagging and other small scale dust forming operations	Lagging Shop (covered by own Regulations	Asbestos Stores
Notices to be displayed	Sprayed Limpet Asbestos work. Entry prohibited.	Asbestos delagging. No entry.	Asbestos lagging. No entry.	Asbestos work in progress. Obtain respirator before approaching.	Asbestos Shop. No un-authorized entry.	Asbestos Store. No unauthorized entry.
Registered Asbestos Worker: Protection	Fully protected with impervious suit, gloves, boots. Issued "underclothing". Air fed hood. Shower at end of forenoon and afternoon.	Fully protected with nylon overall, gloves, boots, skull cap. Issued "underclothing". Air fed hood or approved respirator. Shower on completion of day or night shift.	As for major delagging.	Nylon overall, skull cap. Issued "underclothing". Approved respirator. Shower on completion of day or night shift.		
Neighbourhood Worker: Protection	Not allowed entry. (If vital, as for Registered Asbestos Worker).			No restriction on entry. Respirators available on loan.	Respirators available on loan.	
Management Visitor: Protection	Visit to be of less than half hour (if longer as for Registered Asbestos Worker)			No restriction to entry. Respirators available on loan.		
	Impervious suit, gloves, boots, skull cap. Approved respirator.	Nylon overall, skull cap. Approved respirator.	As for major delagging.			