

Recommended Guidelines for the
Encapsulation of Asbestos
Containing Materials

No. 10

Issue Date: January 2008

asbestos removal contractors association

RECOMMENDED GUIDELINES FOR THE ENCAPSULATION OF ASBESTOS CONTAINING MATERIALS (ACM)

1.0 OBJECTIVE

- 1.1 To give guidance on the considerations for the use and methods for encapsulating ACM once a decision has been made to encapsulate as part of an overall management plan.
- 1.2 This Guidance Note assumes that prior risk assessments have been carried out and identified that encapsulation is the appropriate option. Dependent upon the type and condition of the ACM, and the duration of the works, it will usually be necessary to employ the services of a contractor licensed by the Health and Safety Executive (HSE) who will apply the appropriate control measures.

2.0 DEFINITION

- 2.1 For the purposes of this guidance, encapsulation can be defined as the application of an impervious material, which is secured over or around an ACM, and is designed to prevent the release of fibres under foreseeable conditions, such as vibration, impact and age degradation. Encapsulation should maintain the beneficial properties of the original asbestos application and maintain it in a safe condition.

3.0 ASBESTOS LICENSING REQUIREMENTS

- 3.1 Encapsulation of ACM is classed as work with asbestos and is therefore subject to the requirements of the Control of Asbestos Regulations 2006 (CAR).
- 3.2 Encapsulation of asbestos is best carried out by a contractor licensed by the HSE for work with asbestos, however the regulations may not strictly require a licensed contractor if:
 - The material is in good condition; and
 - The Control Limit (0.1 f/ml 4 hour Time Weighted Average) will not be exceeded during the work; and
 - The Short Term Exposure Limit (0.6 f/ml measured over any 10 minute period) will not be exceeded during the work.
- 3.3 Details of how to carry out minor asbestos encapsulation work not requiring a licence can be found in HSG210 Asbestos Essentials Task Manual.
- 3.4 All work should be planned to minimise the potential for fibre release.

4.0 WHEN IS ENCAPSULATION APPROPRIATE

- 4.1 The condition of the existing ACM is of prime importance, particularly in the case of sprayed asbestos and thermal insulation. Encapsulation should only be considered if the ACM is adhering firmly to the substrate and is in a viable state. The planned work should be technically possible, economically viable, and the attributes of the original application need to be maintained. Of equal importance, is the need to ensure that there is no likelihood of liquid penetration into the asbestos from the substrate after encapsulation. The additional weight of absorbed and trapped water could cause the asbestos to fall away.
- 4.2 Possible future damage to the application must be taken into account, e.g. from structural movement, vibration, vandalism, or from tools and equipment, or vehicles such as fork lift trucks, and the need for future maintenance work.
- 4.3 Encapsulation should maintain the attributes of the original asbestos application e.g. fire resistance, acoustic or thermal insulation. This will avoid the need to replace asbestos with an alternative material and the additional costs involved. Where the asbestos to be encapsulated is providing fire protection any encapsulant which is used should also be fire resistant.

5.0 METHODS

5.1 The commonly available encapsulation methods are:

- **Mechanical Encapsulation**, e.g. by use of board or sheet materials and simply painting with domestic paint. Normally board or sheet materials should not be fixed through the asbestos material. However, if the assessment shows that the best method for mechanical protection requires screw fixing through the asbestos material, appropriate controls should be put in place to minimise fibre release and spread of contamination
- **High Build Elastomeric Coating**, a liquid encapsulant applied in several layers suitable for encapsulation of sprayed coatings, insulation, boards, etc (such as 'Idenden ET150')
 - These encapsulants can provide impact resistance as well as elasticity, especially when incorporating a reinforcing membrane, e.g. calico cloth or scrim. Correctly applied to asbestos applications, these encapsulants may provide up to 20 years of life if undisturbed. Manufacturer's instructions should be followed.
- **Penetrating Encapsulants**, suitable for encapsulation of sprayed coatings, insulation, boards, etc. (such as 'Incorez' or 'Serpiflex')
 - Spray applied encapsulants are available which will penetrate friable ACMs. Such encapsulants have many advantages over other forms, but their application must follow manufacturers' instructions for effective results.
- **Water Based Epoxy Resins**, with chopped strand mat (glass fibre) are available which provide high impact resistance and an easily cleanable surface (such as '3M Scotchkote' encapsulant).

6.0 TYPICAL METHOD OF APPLICATION FOR LIQUID ENCAPSULANTS

- 6.1 Dependent upon the surface condition of the ACM, a light coat of thinned encapsulant or bonding primer to increase penetration should initially be spray applied at a lower pressure than the final applications. This is to consolidate the surface prior to the application of one or more coats in order to achieve the manufacturer's recommended dry film thickness of the encapsulant.
- 6.2 If additional protection is required the encapsulant may be reinforced with non asbestos fibres, significantly increasing resistance to impact. The reinforcement should be applied to the wet surface between coats.
- 6.3 Attempts to encapsulate sprayed asbestos applied to structures, e.g. beams and columns, often produce poor results as the material is not stable and may fall away. Ensure that any method used will not lead to this occurring.
- 6.4 If encapsulation is appropriate to surfaces where sprayed asbestos has been removed, and residue remains, which cannot be removed, encapsulant should be applied over and beyond the asbestos residue.
- 6.5 Where products have been treated by an encapsulation process, the risk should be reassessed and the material managed in accordance with Regulation 4 of the CAR.

7.0 INSURANCE REQUIREMENT

7.1 It is a legal requirement for all contractors to be insured for the type of work they carry out. Contractors carrying out encapsulation of ACM need to hold Employers Liability and Public Liability insurance specifically for work with asbestos. Insurance for work with asbestos is normally written out of insurance policies; therefore contractors who work with asbestos must have the cover for insurance written back into their policies. Specific reference to work with asbestos should be made on the contractor's insurance schedule to indicate they have adequate insurance cover for this type of work.

8.0 REFERENCES

- L143 - Work with materials containing asbestos Control of Asbestos Regulations 2006
- HSG210 - Asbestos Essentials Task Manual

9.0 FURTHER READING

- HSG213 - Introduction to asbestos essentials
- www.hse.gov.uk/asbestos/essentials/index.htm
- HSG 247 - The Licensed Contractors Guide
- L127 - The management of asbestos in non domestic premises
- HSG227 - A comprehensive guide to managing asbestos in premises
- INDG223 - A short guide to managing asbestos in premises